

Montana

Water Supply Outlook Report

April 1st, 2017



Norm Kamrud, who enjoys his retirement from the USFS by measuring snowcourses in the Upper Clark Fork River basin, took his new snow bike into the Slide Rock snowcourse in the Sapphire Range this month. They measured 105% of normal snow water equivalent at the site, and 36" of snow during their survey. Basin-wide snowpack in the Upper Clark Fork River basin is slightly below normal at 93%, but the Rock Creek sub-basin where he is measuring is slightly above normal for this time. This is the first snow bike that has ever been taken to measure a snowcourse in Montana, and potentially the western US. *Photo: Halvor Kamrud*

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Montana Water Supply Outlook Report as of April 1st, 2017

How forecasts are made

Most of the annual streamflow in the Western United States originates as snowfall that has accumulated high in the mountains during winter and early spring. As the snowpack accumulates, hydrologists estimate the runoff that will occur when it melts. Predictions are based on careful measurements of snow water equivalent at selected index points. Precipitation, temperature, soil moisture and antecedent streamflow data are combined with snowpack data to prepare runoff forecasts. Streamflow forecasts are coordinated by Natural Resources Conservation Service and National Weather Service hydrologists. This report presents a comprehensive picture of water supply conditions for areas dependent upon surface runoff. It includes selected streamflow forecasts, summarized snowpack and precipitation data, reservoir storage data, and narratives describing current conditions.

Snowpack data are obtained by using a combination of manual and automated SNOTEL measurement methods. Manual readings of snow depth and water equivalent are taken at locations called snow courses on a monthly or semi-monthly schedule during the winter. In addition, snow water equivalent, precipitation and temperature are monitored on a daily basis and transmitted via meteor burst telemetry to central data collection facilities. Both monthly and daily data are used to project snowmelt runoff.

Forecast uncertainty originates from two sources: (1) uncertainty of future hydrologic and climatic conditions, and (2) error in the forecasting procedure. To express the uncertainty in the most probable forecast, four additional forecasts are provided. The actual streamflow can be expected to exceed the most probable forecast 50% of the time. Similarly, the actual streamflow volume can be expected to exceed the 90% forecast volume 90% of the time. The same is true for the 70%, 30%, and 10% forecasts. Generally, the 90% and 70% forecasts reflect drier than normal hydrologic and climatic conditions; the 30% and 10% forecasts reflect wetter than normal conditions. As the forecast season progresses, a greater portion of the future hydrologic and climatic uncertainty will become known and the additional forecasts will move closer to the most probable forecast.

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Table of Contents

State-Wide Overview

- Snowpack 1
 - Snowpack Maps 2-4
- Precipitation..... 5
 - Precipitation Maps..... 6-11
- Reservoir Storage 12
 - Reservoir Map..... 13
- Streamflow 14
 - Streamflow Map 15

Individual Basin Summaries

- Kootenai River Basin 16
- Flathead River Basin..... 22
- Upper Clark Fork River Basin..... 28
- Bitterroot River Basin..... 34
- Lower Clark Fork River Basin..... 40
- Jefferson River Basin 46
- Madison River Basin..... 52
- Gallatin River Basin 58
- Headwaters Mainstem (Missouri) River Basin..... 64
- Smith-Judith-Musselshell River Basin 70
- Sun-Teton-Marias River Basin 76
- St. Mary-Milk River Basin 82
- Upper Yellowstone River Basin 88
- Lower Yellowstone River Basin 94

Snowpack Data Report

- SNOTEL and Snowcourse Data Summary..... 100

Snowpack – Overview

Snowfall during the first week and a half of the month helped the seasonal snowpack to increase in all basins across the state before a major change occurred at mid-month. Sunny days with well above average temperatures during the third week of the month caused the low elevation snowpack to transition to a ripened spring snowpack, which caused active melt at low elevations. Most of the melt occurred at elevations below 7000' east of the Divide, and below 6000' west of the Continental Divide. Low elevation snowcourses and SNOTEL sites saw decreases in snowpack percentages for April 1st due to this melt, while mid and high elevation snowcourses and SNOTEL sites, which did not experience melt during the month, saw net increases over the month of March.

Basin-wide totals for snowpack on April 1st are near to slightly above normal for the rivers and sub-basins west of the Divide. Early season moisture built a deep snowpack which remains near normal for this date. East of the Divide conditions vary widely on April 1st. Two rivers in the headwaters of the Missouri (Jefferson and Madison) are near to above normal for snowpack on April 1st, while the Gallatin is below normal for snowpack (87%). The low snowpack totals in the Gallatin are a result of poor snowpack in the Hyalite/Gallatin Range which is near record low for this date. The Sun-Teton Marias combined river basin is also well below normal and has been through the water year due to below normal snowfall throughout the course of the winter. A number of sites are record low, or near record low for snow water equivalent on April 1st in this region of southwest and central Montana.

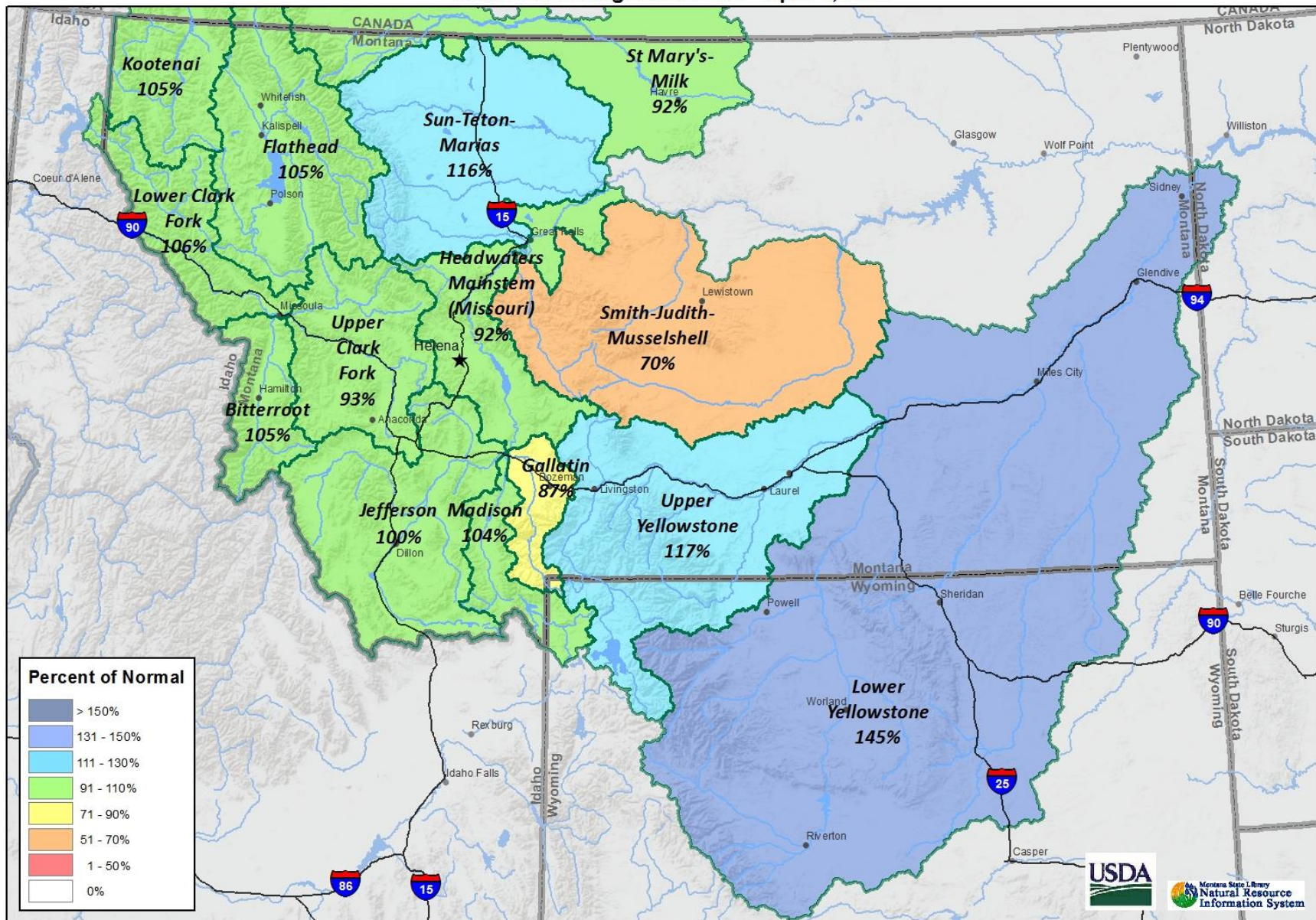
The anomalous weather conditions during the latter half of March has primed the snowpack to continue melting at low elevations in Montana's mountains, a few weeks ahead of schedule. Continued warm and sunny weather could lead to the transition of the mid and high elevations, and early movement of water into the rivers and streams, if the current weather patterns persist.

Snow Water Equivalent

4/1/2017	% Normal	% of Last Year
Columbia River Basin	102	107
Kootnenai in Montana	105	112
Flathead in Montana	105	109
Upper Clark Fork	93	98
Bitterroot	105	108
Lower Clark Fork	106	116
Missouri River Basin	92	95
Jefferson	100	90
Madison	104	104
Gallatin	87	88
Headwaters Mainstem	92	89
Smith-Judith-Musselshell	70	66
Sun-Teton-Marias	116	178
St. Mary-Milk	92	131
Yellowstone River Basin	132	142
Upper Yellowstone	117	126
Lower Yellowstone	145	154

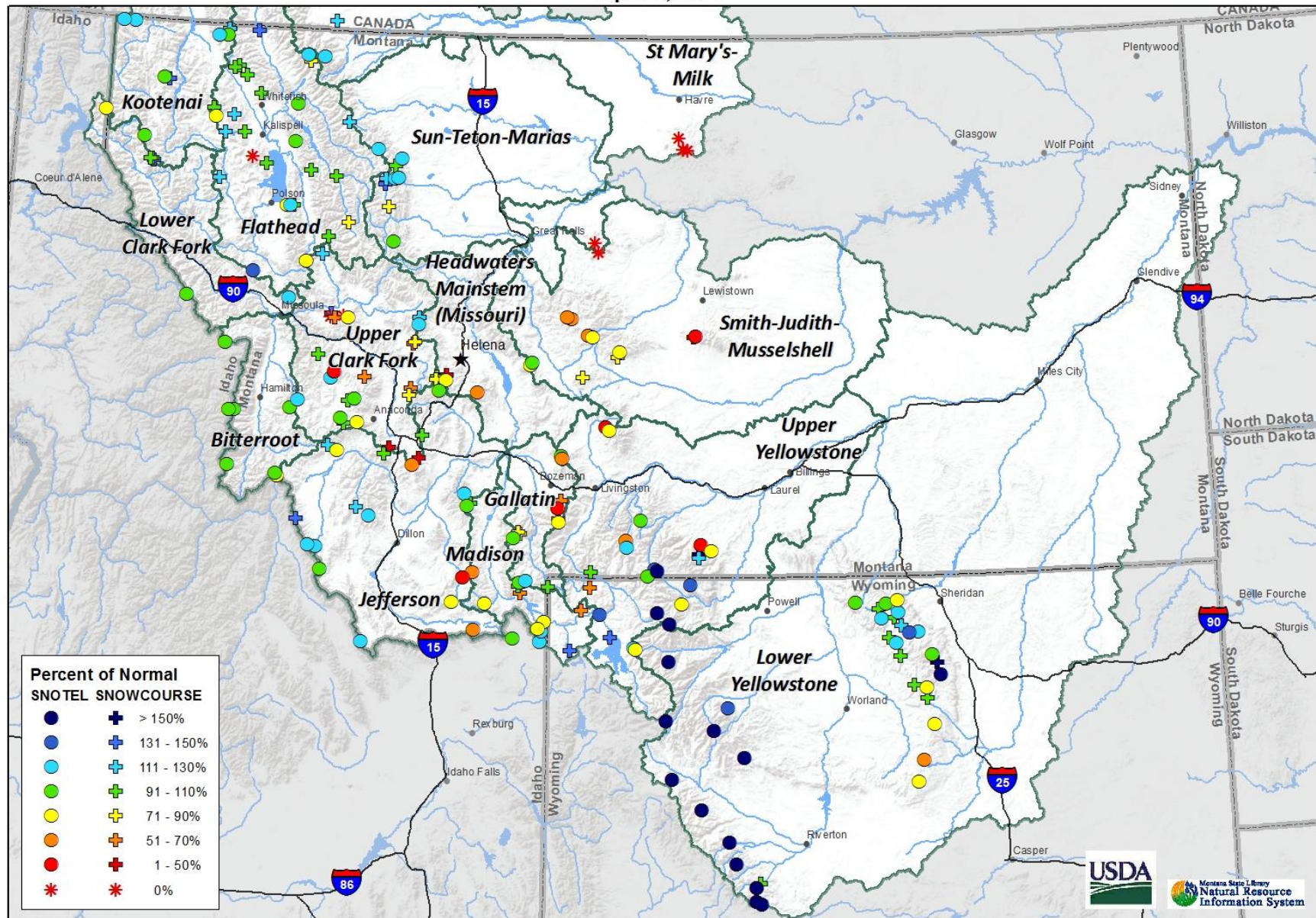
West of Divide	102	107
East of Divide	112	118
Montana State-Wide	100	104

Montana Data Collection Office
Current Snow Water Equivalent
Basin Percentage of Normal - April 1, 2017

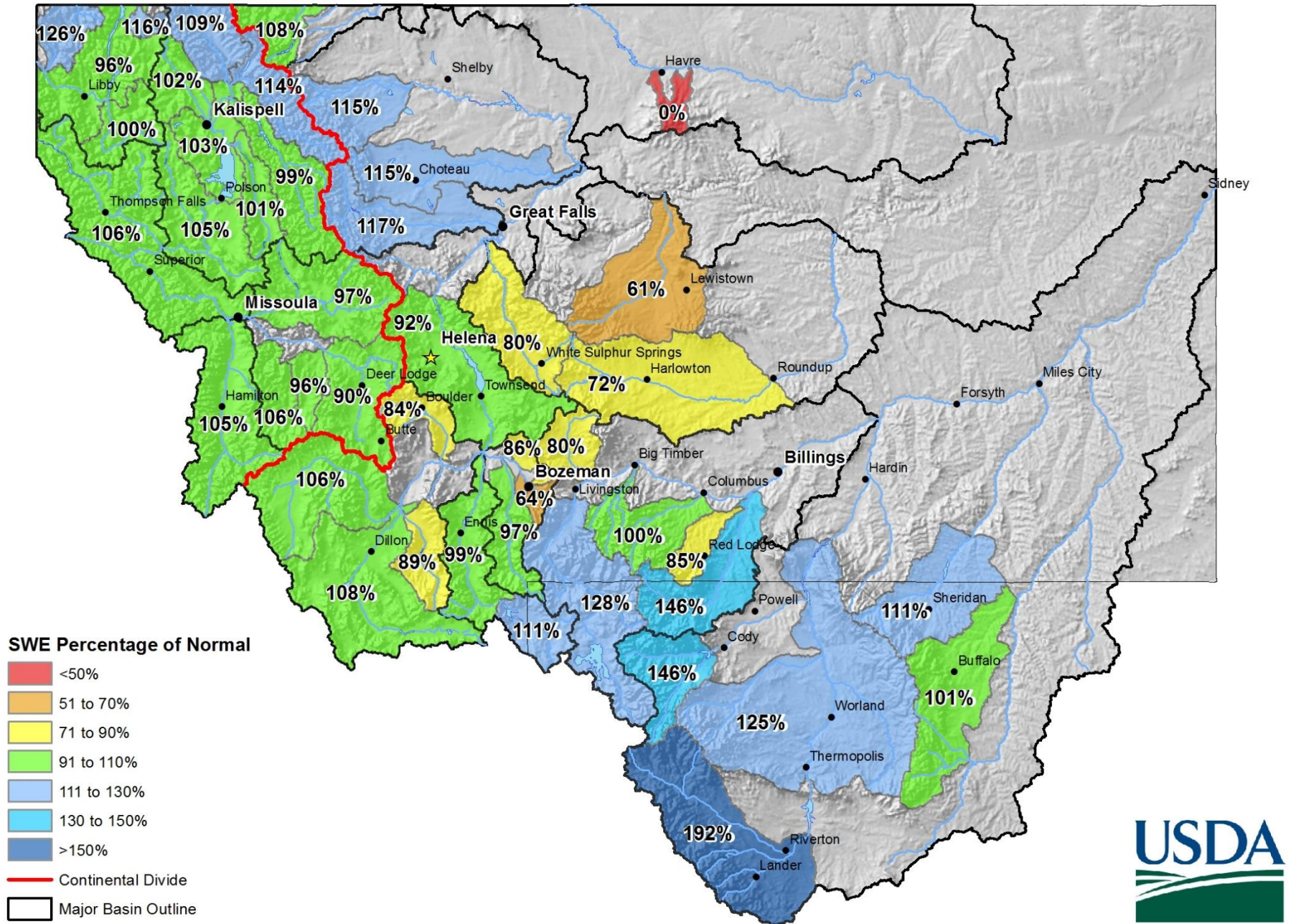


Note: Data includes SNOTEL and Snow course Measurements on April 1, 2017

Montana Data Collection Office
Current Snow Water Equivalent
April 1, 2017



Montana Data Collection Office
Sub-Basin Snow Water Equivalent - April 1st, 2017



Precipitation - Overview

The northwest part of the state received abundant precipitation during the month of March, as did northern basins east of the Divide. Along the Divide and to the east precipitation wasn't as abundant but was near normal in some river basins. Only a few regions along the Divide received below average precipitation.

Some precipitation fell in the liquid form this month with rain on snow events occurring in the northwest river basins up to the highest elevations measured by SNOTEL sites. The deep snowpack was able to "soak up" the rain with little discharge and melt occurring from the snowpack. Rain on snow was mostly confined to the northwest basins and was not widespread across the state.

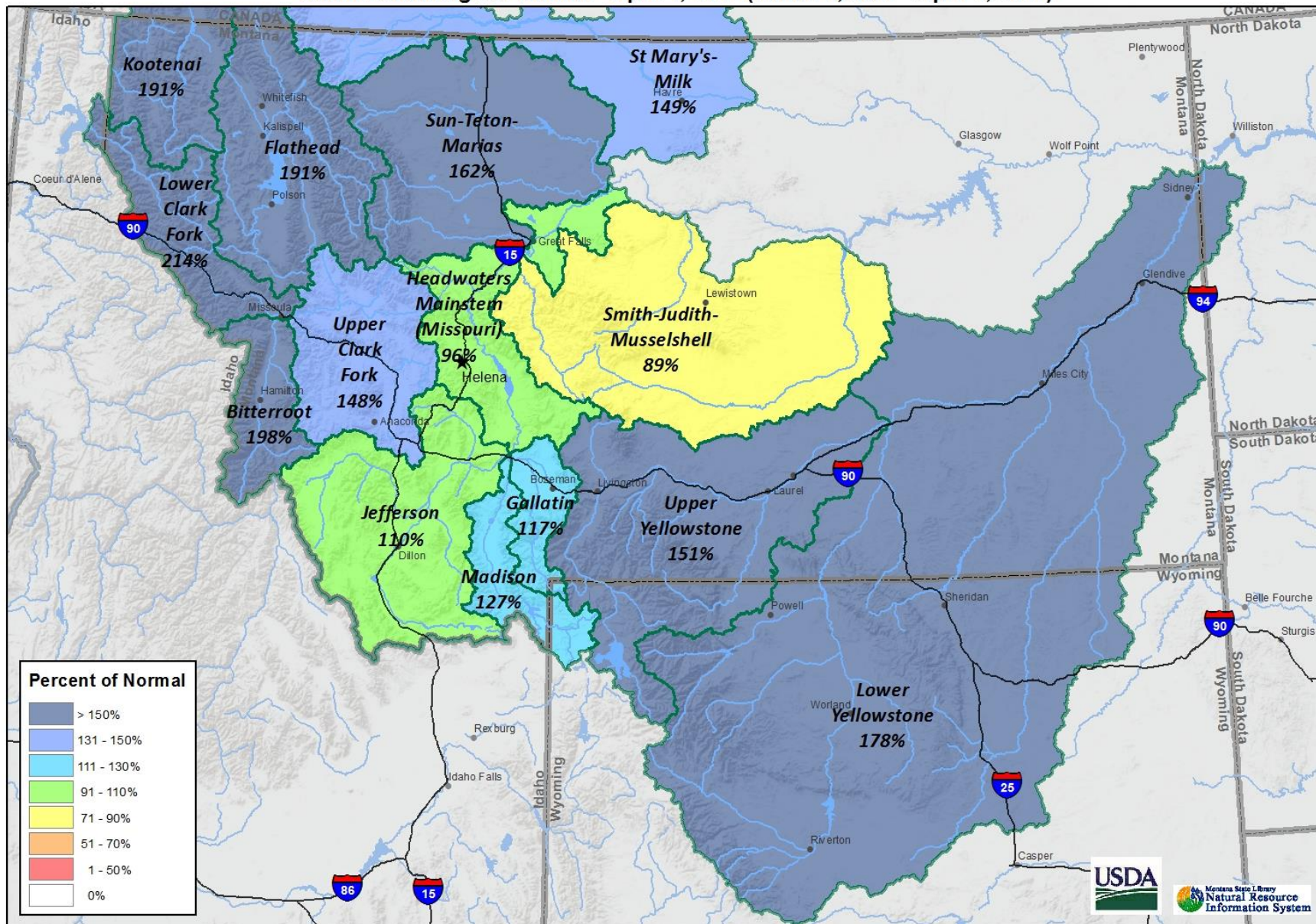
All river basins continue to be above to well above average for water year precipitation beginning October 1st and well above last year at this time. Spring precipitation favors the basins east of the Divide and typically provides additional snow to the mid and high elevations which sustain flows through the summer. Hopefully spring will continue to deliver and keep river flows near average for the April-July time period.

Precipitation

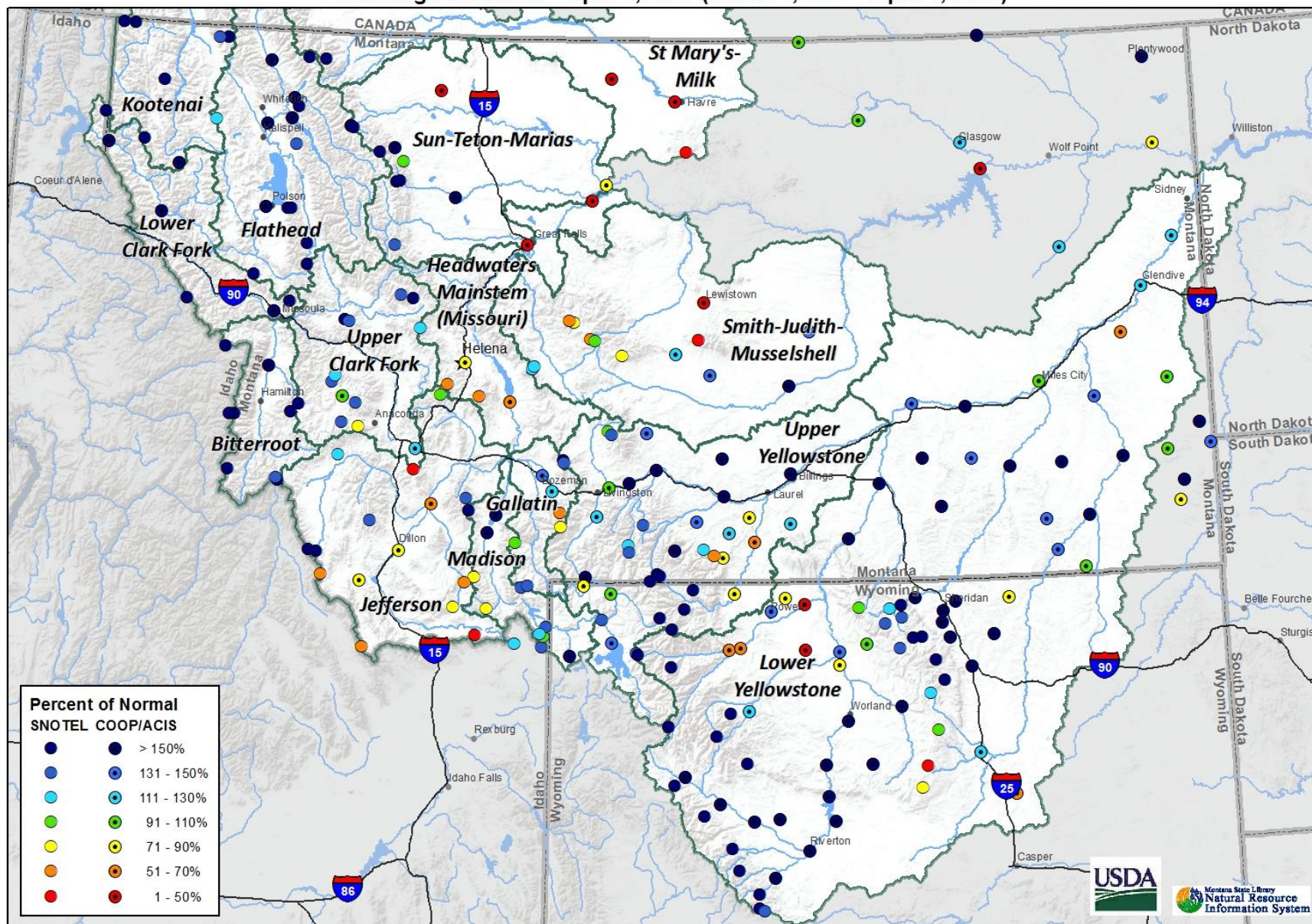
4/1/2017	Monthly % Avg	Water Year % Avg	WY % Last Year
Columbia River Basin	187	130	124
Kootenai in Montana	191	138	119
Flathead in Montana	191	135	127
Upper Clark Fork	148	115	119
Bitterroot	198	120	120
Lower Clark Fork	214	137	129
Missouri River Basin	113	129	128
Jefferson	110	119	116
Madison	127	141	140
Gallatin	117	127	117
Headwaters Mainstem	96	114	114
Smith-Judith-Musselshell	89	108	101
Sun-Teton-Marias	162	129	161
St. Mary-Milk	149	157	140
Yellowstone River Basin	167	150	155
Upper Yellowstone	151	147	147
Lower Yellowstone	178	154	164

West of Divide	187	130	124
East of Divide	140	137	140
<i>Montana State-Wide</i>	154	133	129

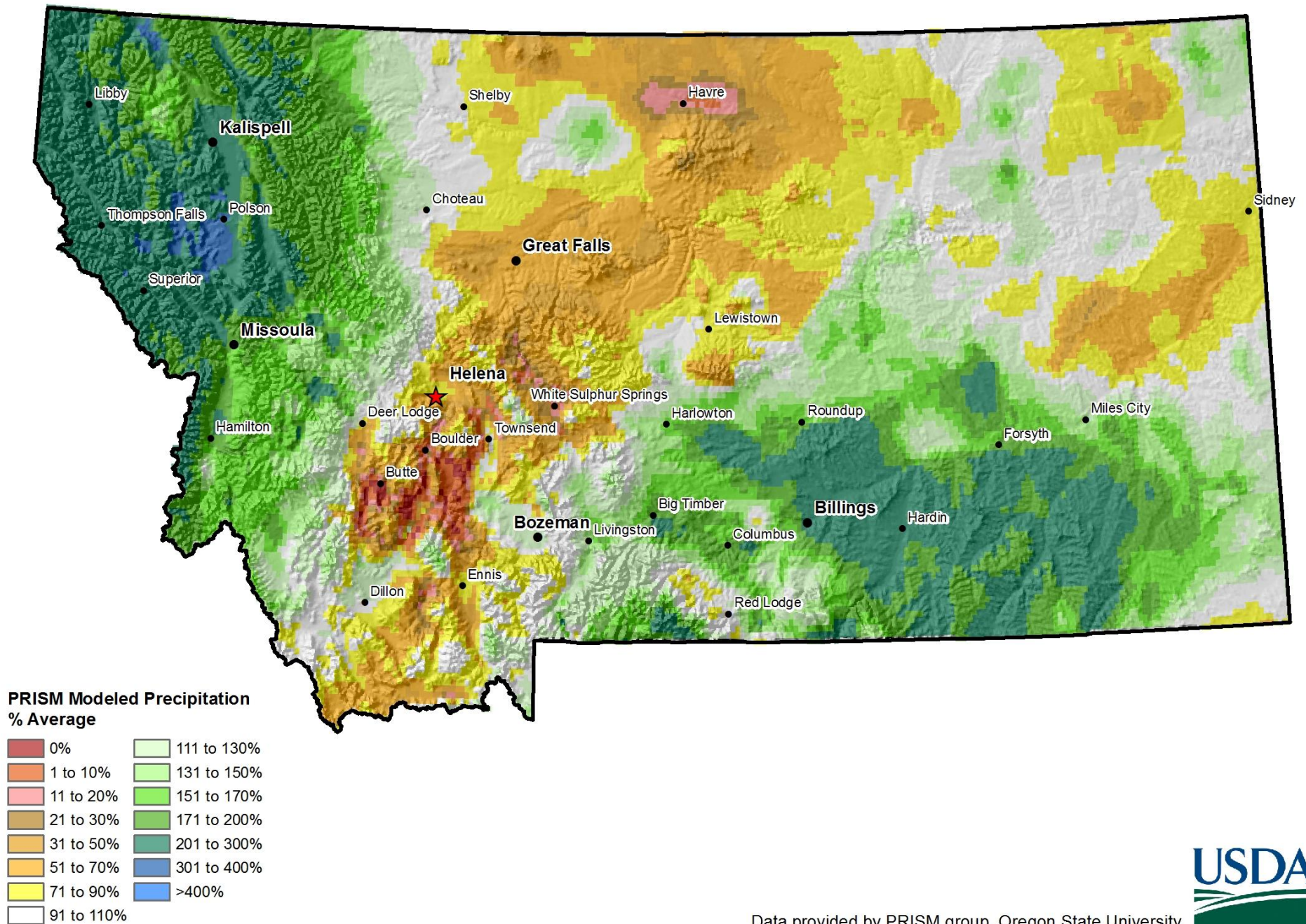
Montana Data Collection Office
Monthly Precipitation
Basin Percentage of Normal - April 1, 2017 (March 1, 2017 - April 1, 2017)



Montana Data Collection Office
 Monthly Precipitation
 Percentage of Normal - April 1, 2017 (March 1, 2017 - April 1, 2017)



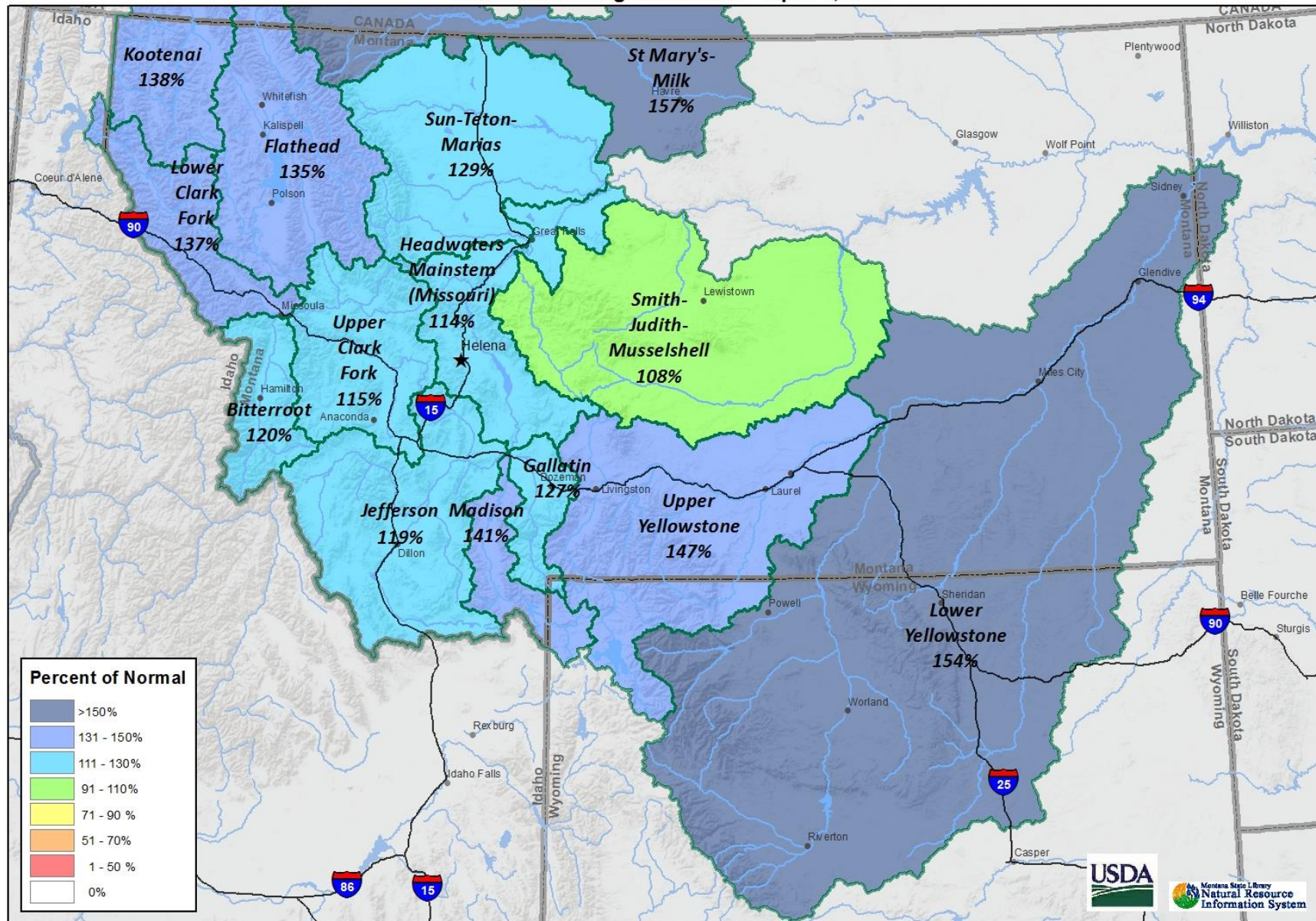
PRISM Monthly Precipitation March 1st, 2017 - March 31st, 2017



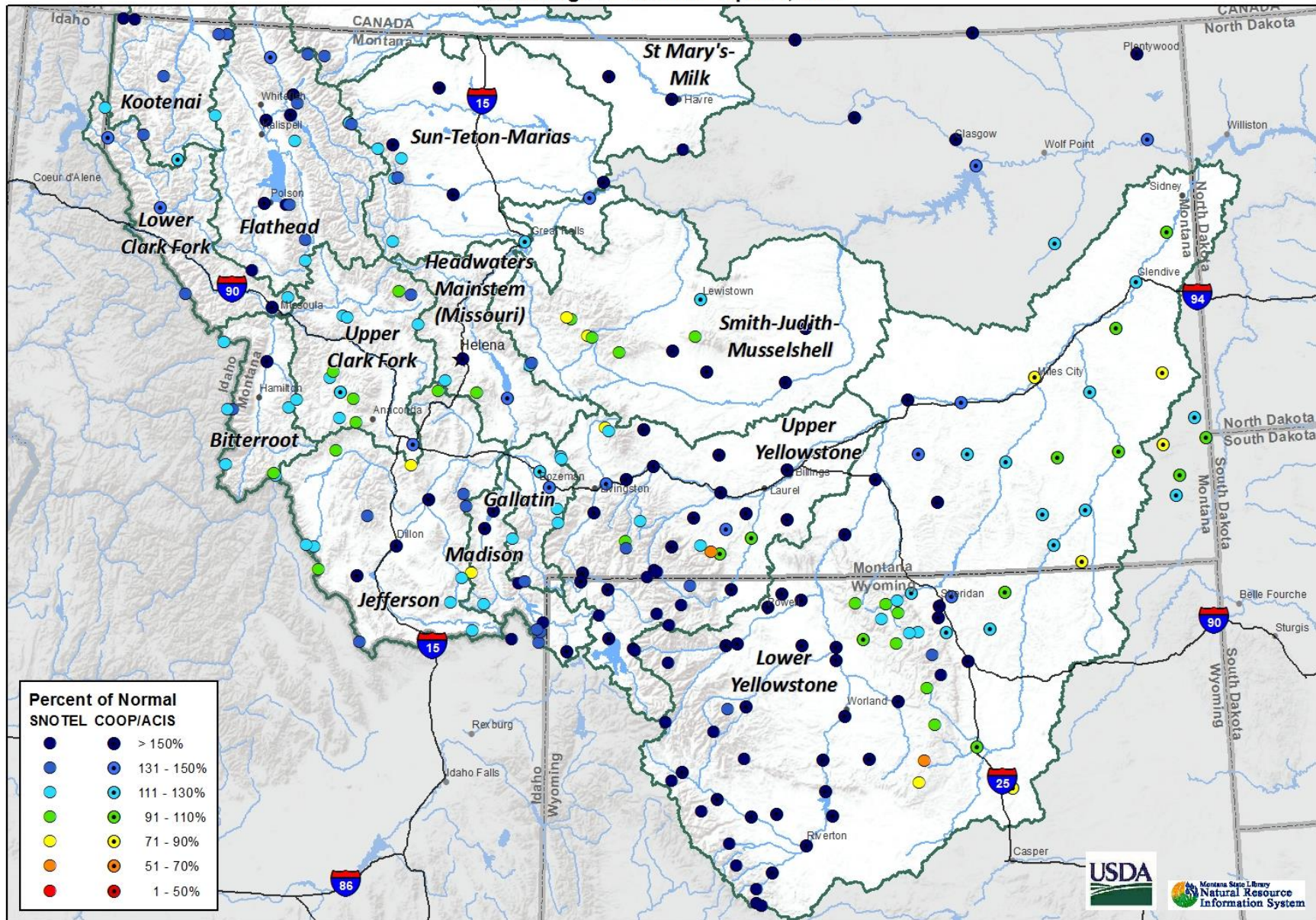
Data provided by PRISM group, Oregon State University



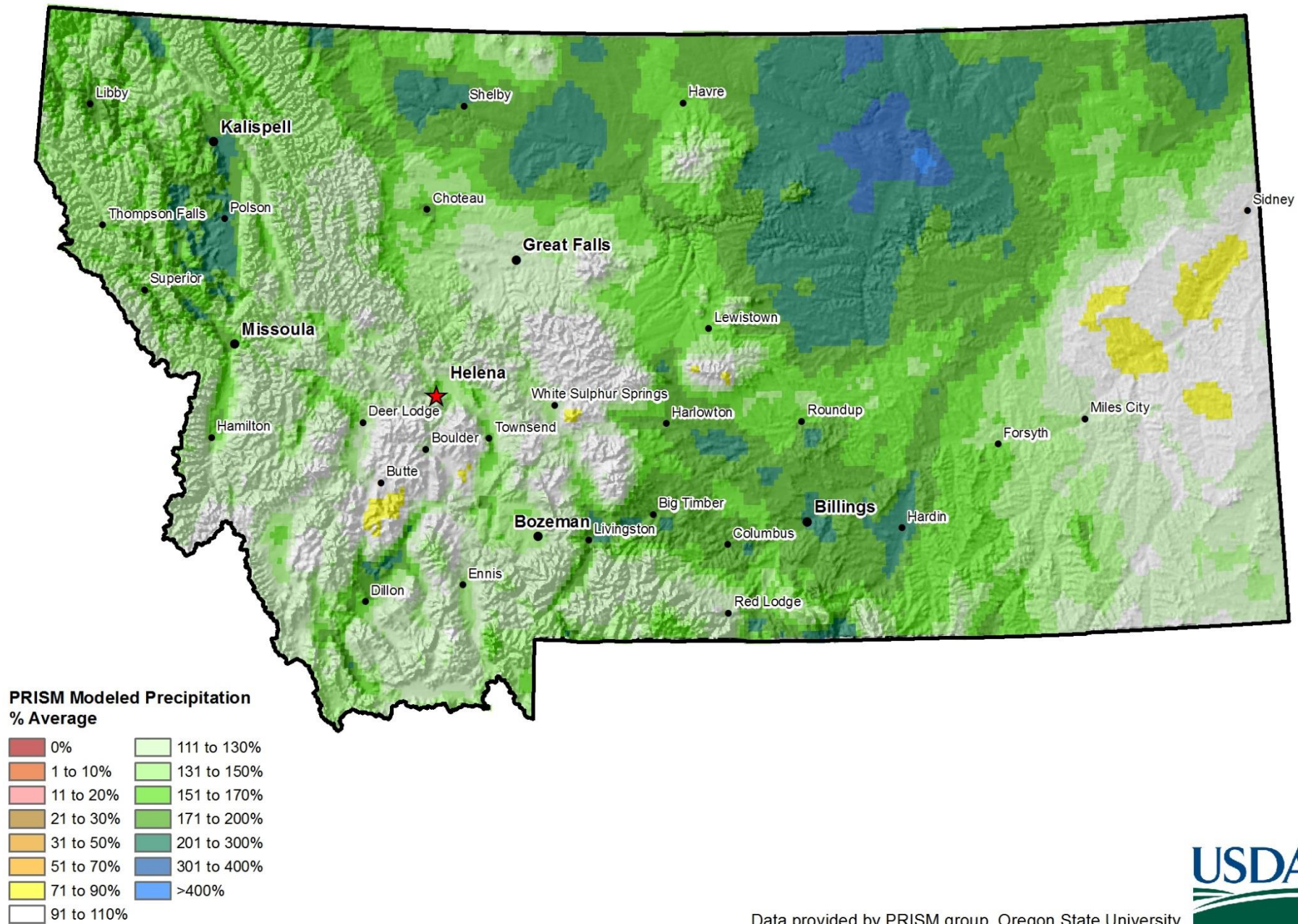
Montana Data Collection Office
Water Year to Date Precipitation
Basin Percentage of Normal - April 1, 2017



Montana Data Collection Office
Water Year to Date Precipitation
Percentage of Normal - April 1, 2017



PRISM Monthly Precipitation April 1st, 2017 Water Year Precipitation



Data provided by PRISM group, Oregon State University



Reservoirs - Overview

Most Reservoirs across the state are near or slightly above average for April 1st. Valley snow melt and low elevation mountain snowmelt has started to increase the inflows to many of the reservoirs across the state. Reservoir managers will be keeping an eye on the mountain snowpack and spring precipitation in anticipation of the coming seasonal runoff.

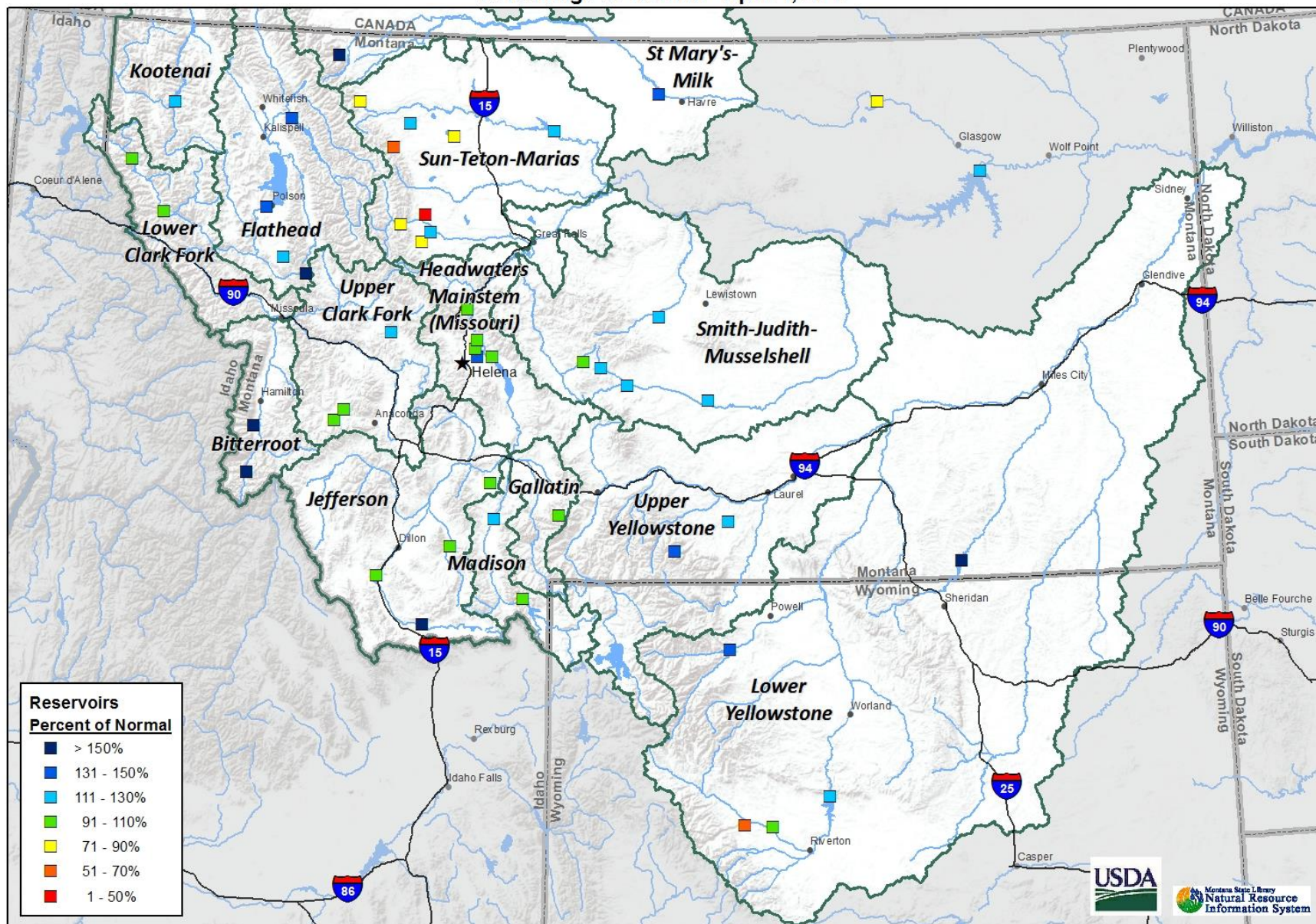
A few reservoirs have snowpack above them that is record low, or near record low for this date. Snowpack measurement locations above Hyalite Reservoir are record or near record low. As an important reservoir for irrigators in the Gallatin Valley and for the city of Bozeman's water supply this is concerning for water users depending on Hyalite for water. Snowpack above Ruby Reservoir near Sheridan, MT is also well below normal for this time. Spring precipitation and snowfall could help to improve conditions before the bulk of runoff occurs, but water managers and users should plan for careful management of the water supply if conditions do not improve, or deteriorate.

Please look at individual basin reports for detailed reservoir content information.

Reservoir Storage

<i>4/1/2017</i>	<i>% Average</i>	<i>% Capacity</i>	<i>% Last Year</i>
Columbia River Basin	131	64	107
Kootnenai in Montana	122	51	89
Flathead in Montana	140	75	123
Upper Clark Fork	107	81	107
Bitterroot	178	65	126
Lower Clark Fork	107	99	107
Missouri River Basin	117	79	104
Jefferson	108	57	127
Madison	110	78	103
Gallatin	102	56	103
Headwaters Mainstem	119	82	103
Smith-Judith-Musselshell	118	69	86
Sun-Teton-Marias	109	57	110
St. Mary-Milk	139	64	116
Yellowstone River Basin	100	57	93
Upper Yellowstone	120	53	98
Lower Yellowstone	100	57	94
West of Divide	131	64	107
East of Divide	116	78	104
Montana State-Wide	120	73	104

Montana Data Collection Office
Reservoir Levels
Percentage of Normal - April 1, 2017



Streamflow - Overview

Forecasts across the state are generally up from last month in the northwest basins, and down in the southern basins. What has been interesting this year is the amount of variability within the river basins along the southern border of the state. Forecasts in these basins can be near average for a river in one part of the basin, and well below in the neighbor basin just 20 miles away. For the most part, most large rivers in the state are forecasted to see near to above average flows for the April-July time period. Only a few basins (Gallatin and Smith-Judith-Musselshell) have forecast points within the basin which are well below average for this period. For this reason it is important to consult the individual basin reports to see the stream of interest and its forecasted flow.

The table below is a new format to illustrate the range of forecasts within a basin. Many "River Basins" have 2 to 12 forecast points for smaller streams and tributaries to the major rivers. Its intention is to show that there are forecasts above and below the average for the basin as a whole. In addition, forecasts below are given for the 50% exceedance forecasts, which is the median forecast. Each streamflow point also has a range of forecasted outcomes (10%, 30%, 50%, 70%, 90%) which can be used for guidance if, or when, conditions change. For individual streamflow forecasts please consult the individual basin streamflow tables.

	APR-JUL 50 % Exceedance Forecasts		
<i>River Basin</i>	Highest Point Forecast*	Lowest Point Forecast**	Basin Avg Forecast***
<i>Columbia River Basin</i>	153%	97%	113%
Kootenai River Basin	137%	107%	124%
Flathead River Basin	153%	104%	120%
Upper Clark Fork	111%	97%	103%
Bitterroot River Basin	110%	101%	107%
Lower Clark Fork	117%	109%	112%
<i>Missouri River Basin</i>	117%	62%	97%
Jefferson	116%	73%	93%
Madison	108%	97%	102%
Gallatin	93%	82%	88%
Headwaters Mainstem	101%	93%	97%
Smith Judith Musselshell	80%	62%	73%
Sun Teton Marias	117%	94%	113%
St Mary	117%	115%	116%
<i>Yellowstone River Basin</i>	222%	76%	127%
Upper Yellowstone	158%	76%	120%
Lower Yellowstone	222%	102%	134%

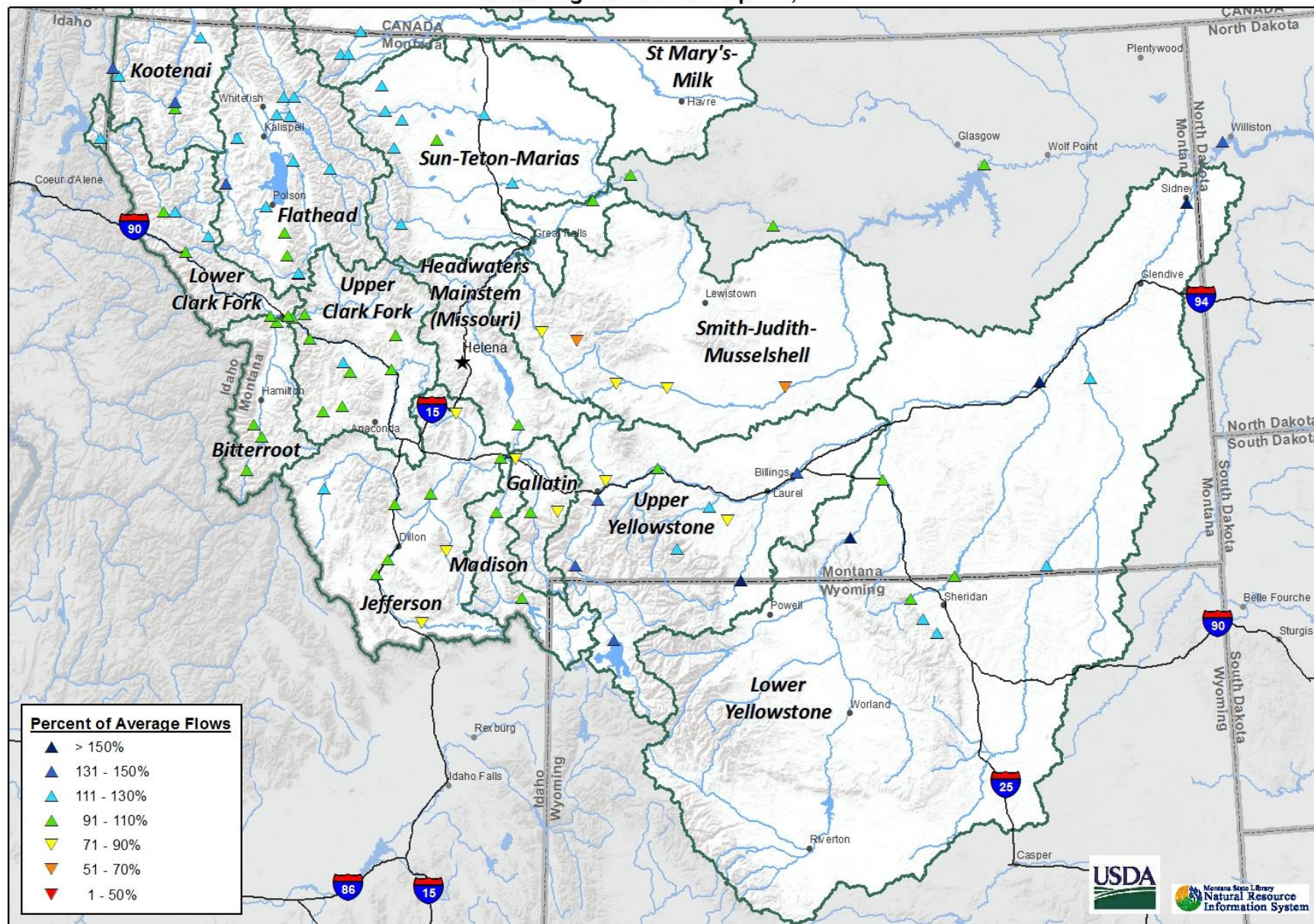
NOTE: Streamflow forecasts are issued for multiple points on rivers and streams within a major river basin and are given as a range of exceedance probabilities. Consult the individual river basin of interest to see the range of values for streams of interest.

*Highest point forecast is the highest 50% forecast of all forecast points within the basin

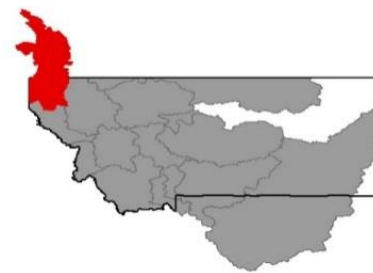
**Lowest point forecast is the lowest 50% forecast of all forecast points within the basin

***Basin Average Forecast is an average of all 50% forecasts within the basin

Montana Data Collection Office
Streamflow Forecast
Percentage of Normal - April 1, 2017



Kootenai River Basin



March again brought abundant precipitation to the Kootenai River basin in both the solid and liquid form. Storms at the beginning of the month increased snowpack percentages with snowfall at most snow measurement locations. As temperatures warmed mid-month the precipitation turned to the liquid form, but was able to be soaked up by the snowpack with little melt occurring. The Upper Kootenai River in Canada has a snowpack that is well above normal for April 1st which increased forecasts for the mainstem of the Kootenai River for the April – July time period. Snow totals for the month of March were 150 to 200% of normal, which helped to increase snowpack totals on April 1. All sub-basins of the Kootenai River basin are near to above average for this date, and water year-to-date precipitation totals are well above average. Streamflow forecasts are above average for all rivers and streams within the basin.

Kootenai River Basin Data Summary

Snowpack

	Percent of 1981-2010 Normal (Median)	Last Year Percentage of Normal (Median)
KOOTENAY in CANADA	134%	99%
KOOTENAI MAINSTEM	96%	90%
TOBACCO	116%	102%
FISHER	100%	80%
YAAK	126%	123%
KOOTENAI RIVER BASIN in MONTANA	105%	94%
KOOTENAI ab BONNERS FERRY	118%	96%
Basin-Wide Snowpack	105%	94%

Precipitation

	Monthly Percentage of Average	WYTD Percentage of 1981-2010 Average*	WYTD Last Year Percentage of Average
Mountain Precipitation	190%	139%	116%
Valley Precipitation	199%	114%	129%
Basin-Wide Precipitation	191%	138%	116%

*WYTD Precipitation is October 1st- Current

Reservoir Storage

	Percentage of Average	Percentage of Capacity (Total)	Last Year Percentage of Average
Basin-Wide Reservoir Storage	122%	51%	137%

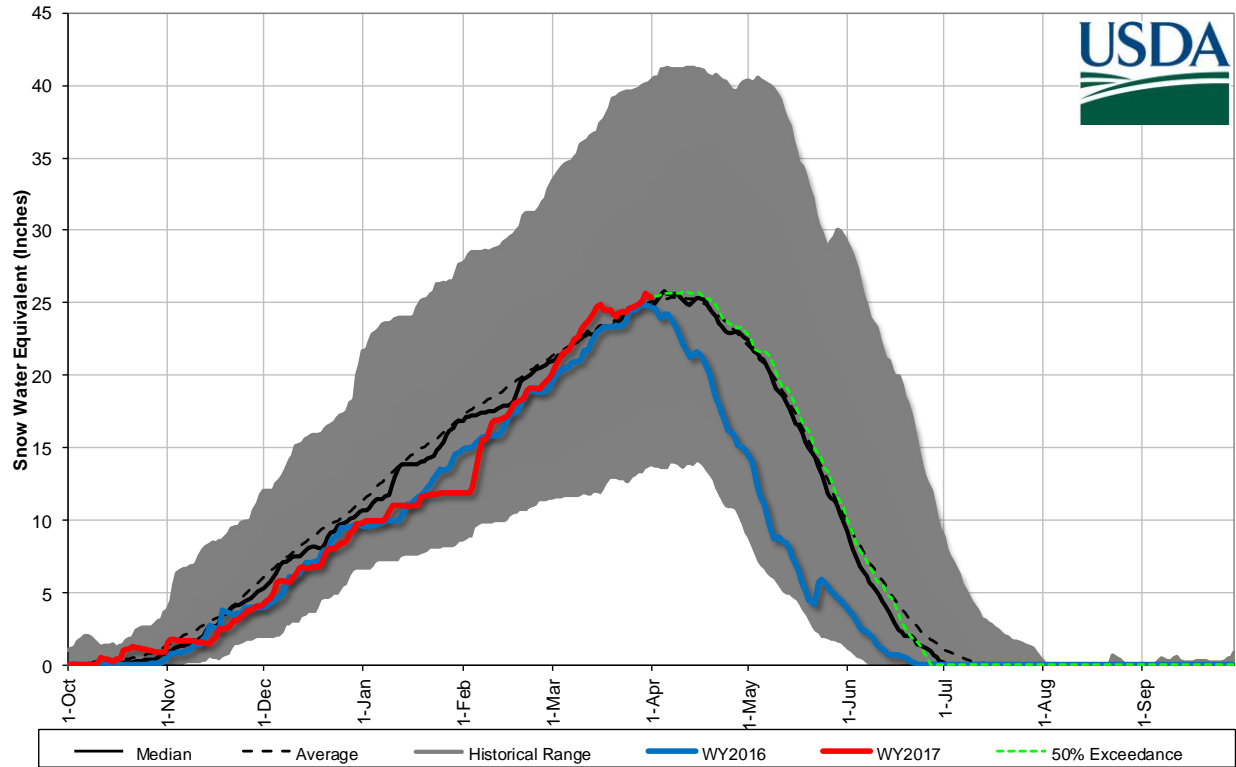
*See Reservoir Storage Table for storage in individual reservoirs

End of Month Storage

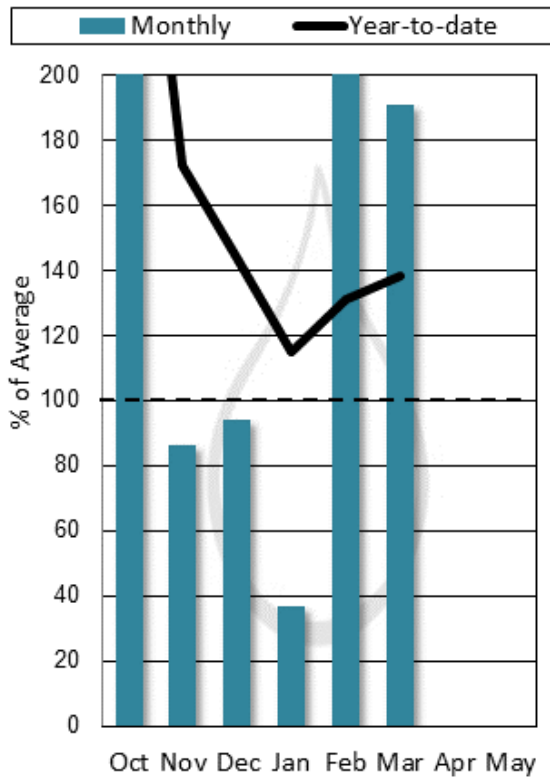
	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)	% Average	% Capacity
Lake Koocanusa	2940.1	3288.4	2408.0	5748.0	122%	51%

Kootenai River Basin Snowpack with Non-Exceedence Projections

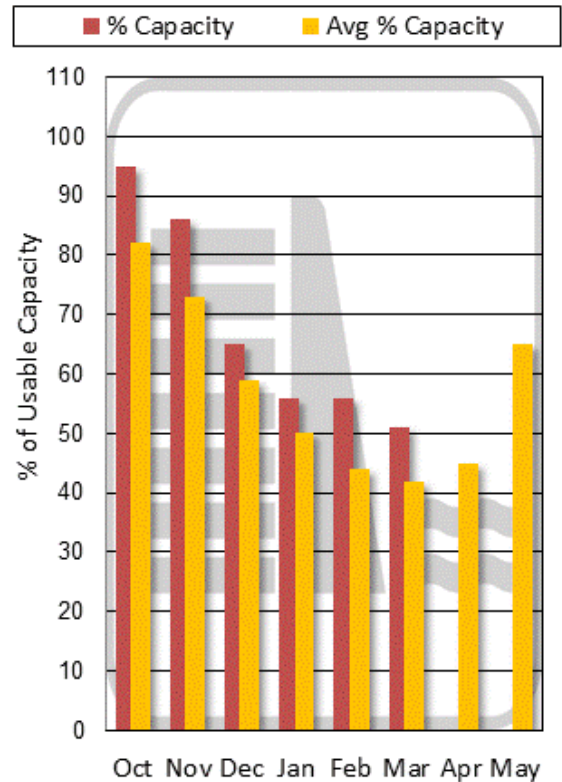
Based on provisional SNOTEL daily data as of 4/1/2017



Mountain and Valley Precipitation



End of Month Reservoir Storage



Storage above is averaged for all reservoirs in the basin. For individual reservoirs see table below.

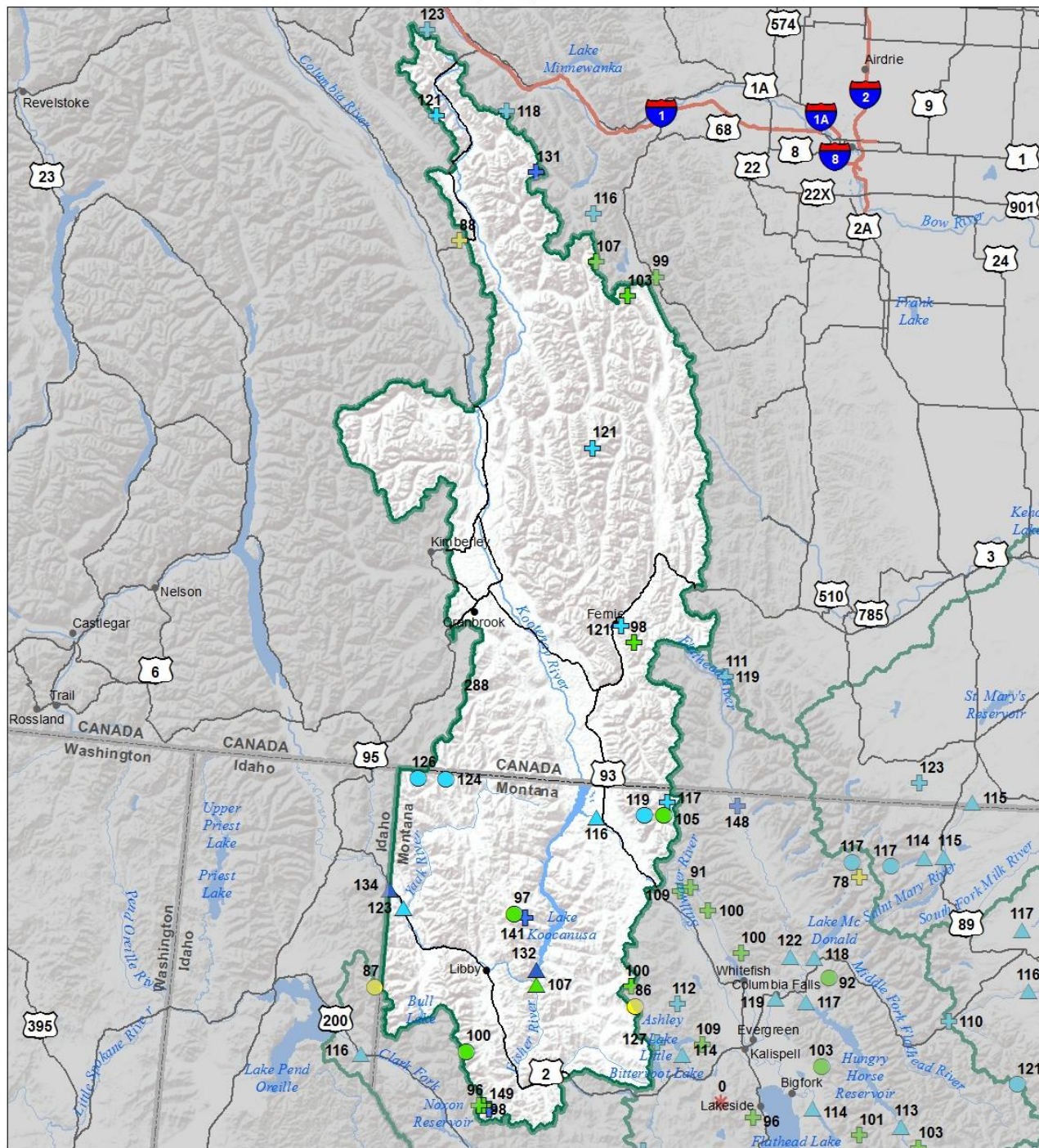
Kootenai River Basin

Forecast Point	Forecast Period	Chance Actual Volume Will Exceed Forecasted Volume						30yr Avg (KAF)
		90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	
Tobacco R nr Eureka	APR-JUL	115	134	146	116%	158	177	126
	APR-SEP	127	149	163	116%	177	199	140
Libby Reservoir Inflow ¹	APR-JUL	6170	6870	7190	135%	7510	8200	5340
	APR-SEP	7160	7910	8260	132%	8610	9360	6250
Fisher R nr Libby	APR-JUL	171	199	220	107%	240	265	205
	APR-SEP	183	210	235	107%	255	280	220
Yaak R nr Troy	APR-JUL	420	480	520	124%	560	615	420
	APR-SEP	440	500	540	123%	580	640	440
Kootenai R at Leonia ^{1,2}	APR-JUL	7950	8690	9030	137%	9360	10100	6600
	APR-SEP	9110	9850	10200	134%	10500	11300	7590

1) 90% and 10% exceedance probabilities are actually 95% and 5%

2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions

Kootenai River Basin Streamflow Forecast, Snow Water Equivalent Percentage of Normal April 1, 2017



Snow Water Equivalent Percent of Normal

SNOTEL

- > 150%
- 131 - 150%
- 111 - 130%
- 91 - 110%

- 71 - 90%
- 51 - 70%
- 1 - 50%
- *

Snowcourse

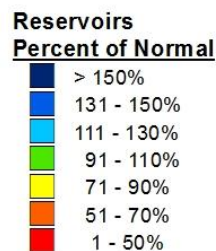
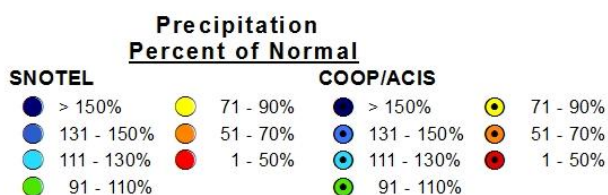
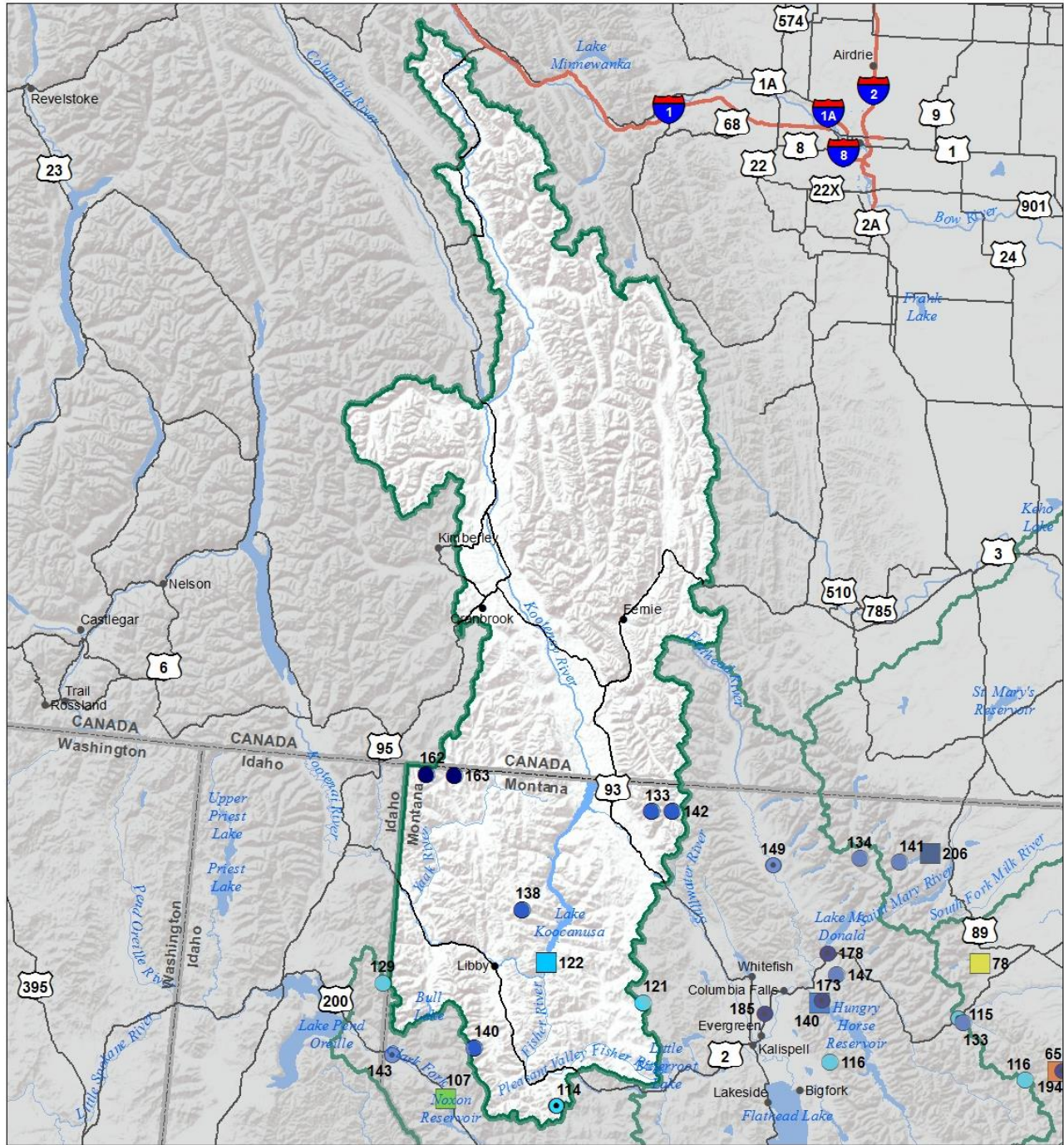
- > 150%
- 131 - 150%
- 111 - 130%
- 91 - 110%
- *

Streamflow Forecast Percent of Average Flows

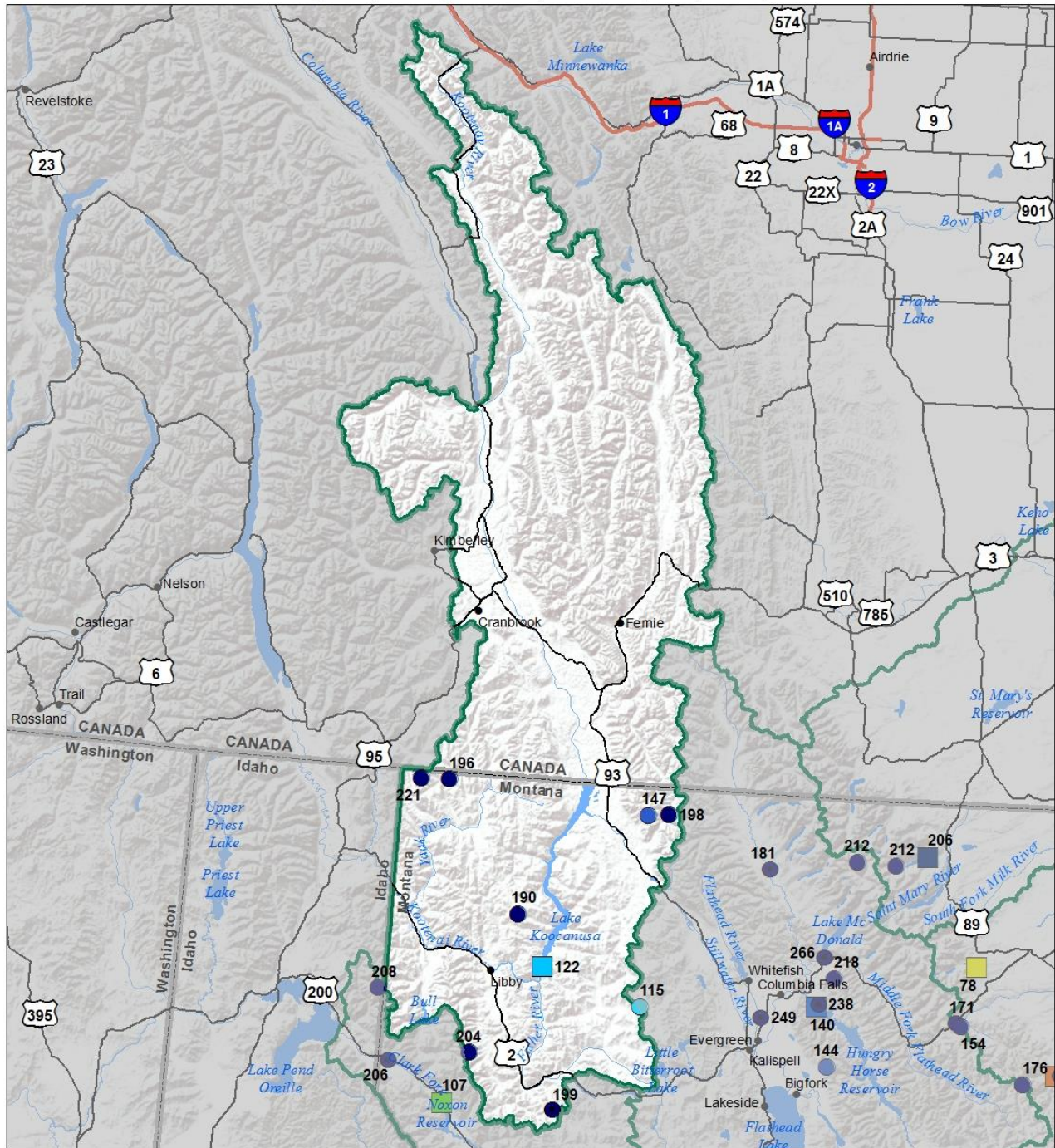
- ▲ > 150%
- ▲ 131 - 150%
- ▲ 111 - 130%
- ▲ 91 - 110%
- ▲ 71 - 90%
- ▲ 51 - 70%
- ▲ 1 - 50%



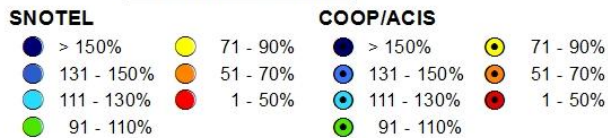
Kootenai River Basin
Water Year to Date Precipitation and Reservoir Levels
Percentage of Normal
April 1, 2017



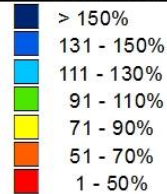
Kootenai River Basin
Monthly Precipitation and Reservoir Levels
Percentage of Normal
April 1, 2017 (March 1, 2017 - April 1, 2017)

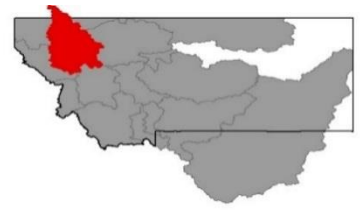


Precipitation
Percent of Normal



Reservoirs
Percent of Normal





Flathead River Basin

Another wet month in the Flathead River basin increased snowpack totals from March 1st, all river basins have snowpack totals that are normal or above normal for this date. Snow totals for the month of March were well above normal at mid to high elevations within the basin, while at lower elevations melt due to above average temperatures and rain on snow resulted in monthly totals that were below normal. Melt was mostly confined to the valleys, which lost their winter snowcover at the beginning of the month, and at mountain locations below 5000' after the middle of the month. Mid to high elevation SNOTEL snowpack was able to absorb the mid-month rain on snow events with little melt and discharge to the rivers and streams. The bulk of the mountain snow water remains to enter the river systems, and future conditions will dictate the timing and magnitudes of flows in the rivers this spring. Basin-wide snowpack typically peaks in the basin in mid-April, so there is still some time left for additional water to be added to the snowpack. April 1st forecasts indicate average to above average streamflows for the April – July time period.

Flathead River Basin Data Summary

Snowpack	Percent of 1981-2010 Normal (Median)	Last Year Percentage of Normal (Median)
NF FLATHEAD in CANADA	111%	84%
NF FLATHEAD in MONTANA	109%	92%
MIDDLE FORK FLATHEAD	114%	91%
SOUTH FORK FLATHEAD	99%	103%
STILLWATER-WHITEFISH	102%	96%
SWAN	101%	108%
MISSION VALLEY	104%	101%
LITTLE BITTERROOT-ASHLEY	103%	75%
JOCKO	105%	98%
FLATHEAD in MONTANA	105%	96%
Basin-Wide Snowpack	105%	95%

Precipitation	Monthly Percentage of Average	WYTD Percentage of 1981-2010 Average*	WYTD Last Year Percentage of Average
Mountain Precipitation	189%	133%	105%
Valley Precipitation	281%	194%	115%
Basin-Wide Precipitation	191%	135%	106%

*Water Year-to-Date (WYTD) Precipitation is October 1st - Current

Reservoir Storage	Percentage of Average	Percentage of Capacity (Total)	Last Year Percentage of Average
Basin-Wide Reservoir Storage	140%	75%	114%

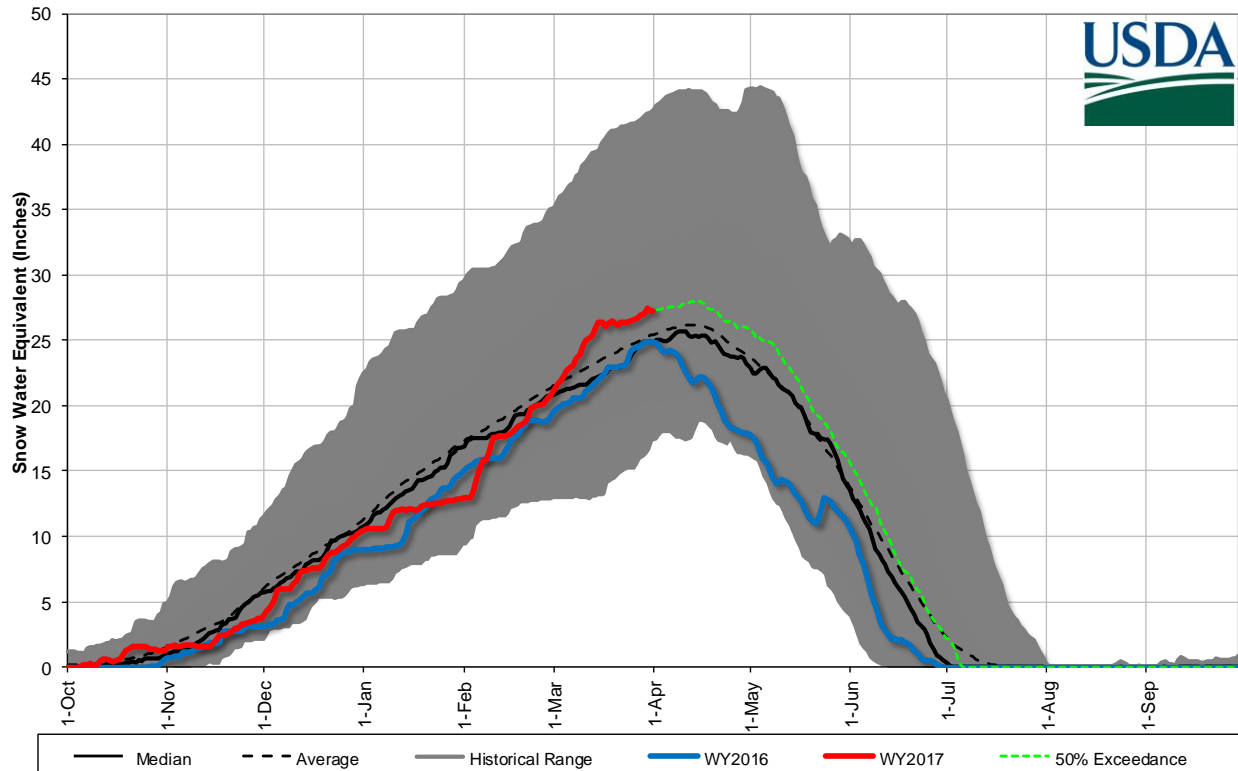
*See Reservoir Storage Table for storage in individual reservoirs

End of Month Storage

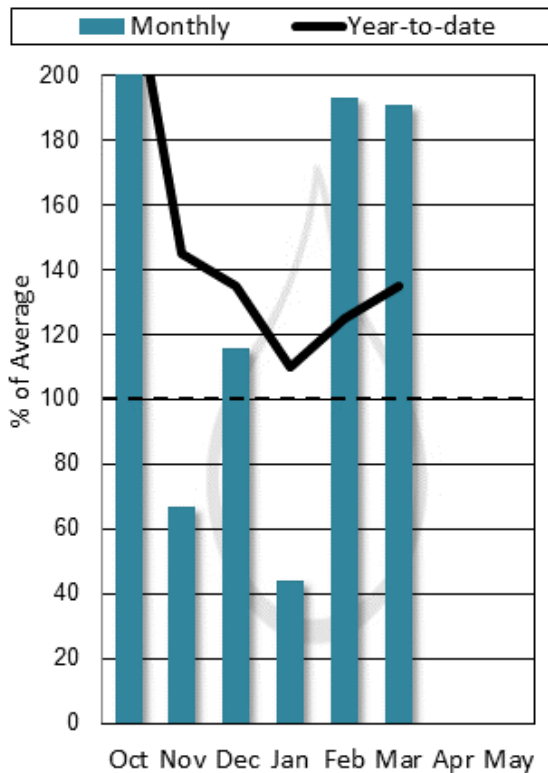
	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)	% Average	% Capacity
Camas (4)		25.6	22.5	45.2		
Lower Jocko Lake	0.1	0.0	0.0	6.4	320%	2%
Mission Valley (8)	37.4	22.5	33.7	100.0	111%	37%
Hungry Horse Lake	2918.5	2529.4	2081.0	3451.0	140%	85%
Flathead Lake	1080.0	715.8	762.6	1791.0	142%	60%

Flathead River Basin Snowpack with Non-Exceedence Projections

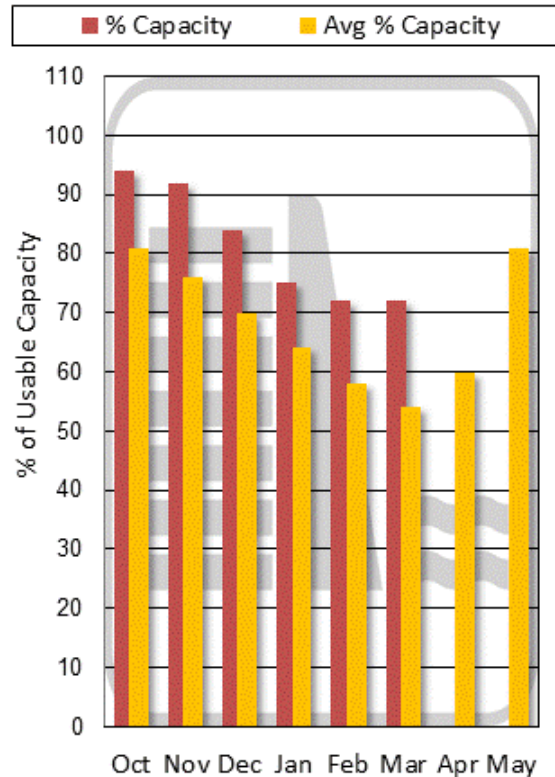
Based on provisional SNOTEL daily data as of 4/1/2017



Mountain and Valley Precipitation



End of Month Reservoir Storage



Storage above is averaged for all reservoirs in the basin. For individual reservoirs see table below.

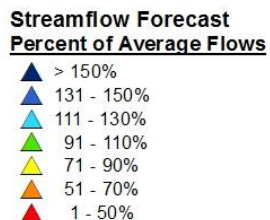
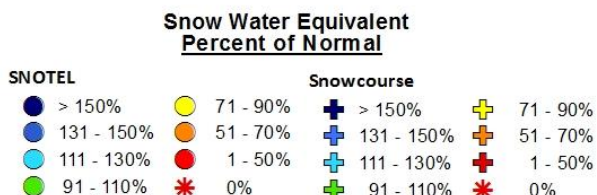
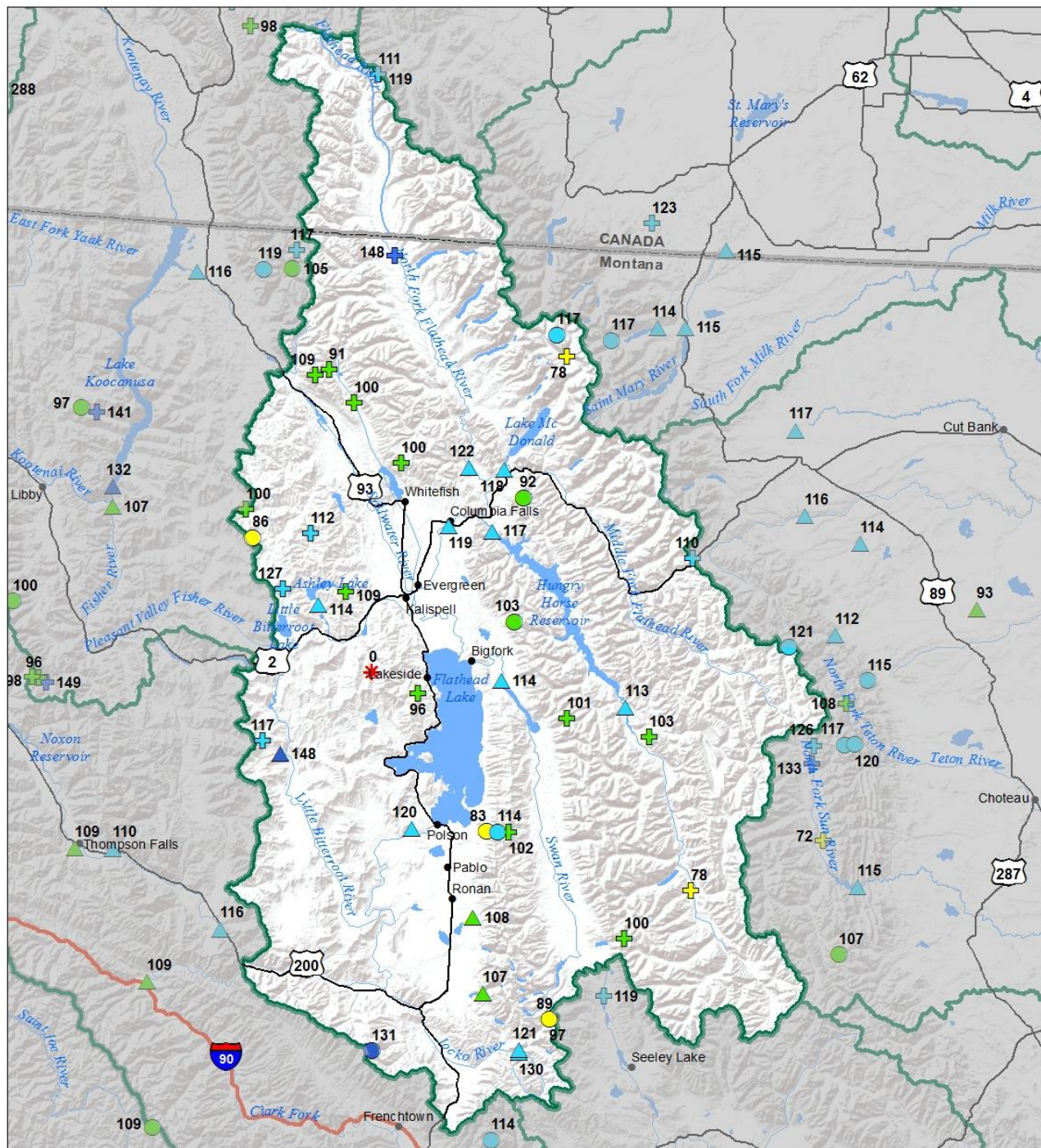
Flathead River Basin

Forecast Point	Forecast Period	Chance Actual Volume Will Exceed Forecasted Volume						30yr Avg (KAF)
		90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	
NF Flathead R nr Columbia Falls	APR-JUL	1690	1810	1890	123%	1970	2100	1540
	APR-SEP	1850	1990	2080	122%	2170	2310	1700
MF Flathead R nr West Glacier	APR-JUL	1550	1680	1770	118%	1860	1990	1500
	APR-SEP	1680	1820	1920	118%	2020	2160	1630
Sf Flathead R nr Hungry Horse	APR-JUL	1210	1310	1380	114%	1440	1540	1210
	APR-SEP	1280	1390	1460	113%	1530	1630	1290
Hungry Horse Reservoir Inflow ^{1,2}	APR-JUL	1830	2080	2200	118%	2310	2560	1860
	APR-SEP	1920	2200	2320	117%	2450	2720	1980
Flathead R at Columbia Falls ²	APR-JUL	5350	5740	6010	120%	6270	6660	5020
	APR-SEP	5750	6190	6490	119%	6780	7220	5450
Ashley Ck nr Marion ²	APR	1.25	2.1	2.7	104%	3.2	4.1	2.6
	APR-JUL	5.1	6.5	7.4	114%	8.4	9.7	6.5
Swan R nr Bigfork	APR-JUL	510	560	600	115%	635	690	520
	APR-SEP	575	640	680	114%	725	785	595
Flathead Lake Inflow ^{1,2}	APR-JUL	5920	6650	6980	120%	7300	8030	5810
	APR-SEP	6300	7130	7510	120%	7890	8710	6270
Mill Ck ab Bassoo ck nr Niarada	APR-JUL	4.8	5.6	6.1	153%	6.6	7.4	4
	APR-SEP	5.2	6	6.5	148%	7	7.8	4.4
South Crow Ck nr Ronan	APR-JUL	8.6	10	11	109%	11.9	13.3	10.1
	APR-SEP	9.8	11.4	12.5	108%	13.6	15.1	11.6
Mission Ck nr St. Ignatius	APR-JUL	23	25	27	108%	28	30	25
	APR-SEP	27	30	32	107%	34	36	30
SF Jocko R nr Arlee	APR-JUL	37	41	44	133%	47	51	33
	APR-SEP	41	45	48	130%	51	56	37
NF Jocko R bl Tabor Feeder Canal	APR-JUL	34	37	38	123%	40	43	31
	APR-SEP	36	39	40	121%	42	45	33

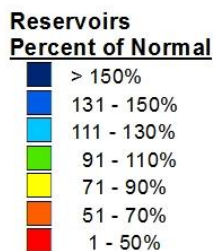
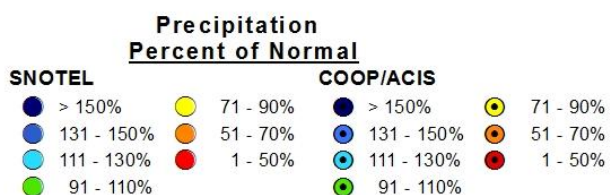
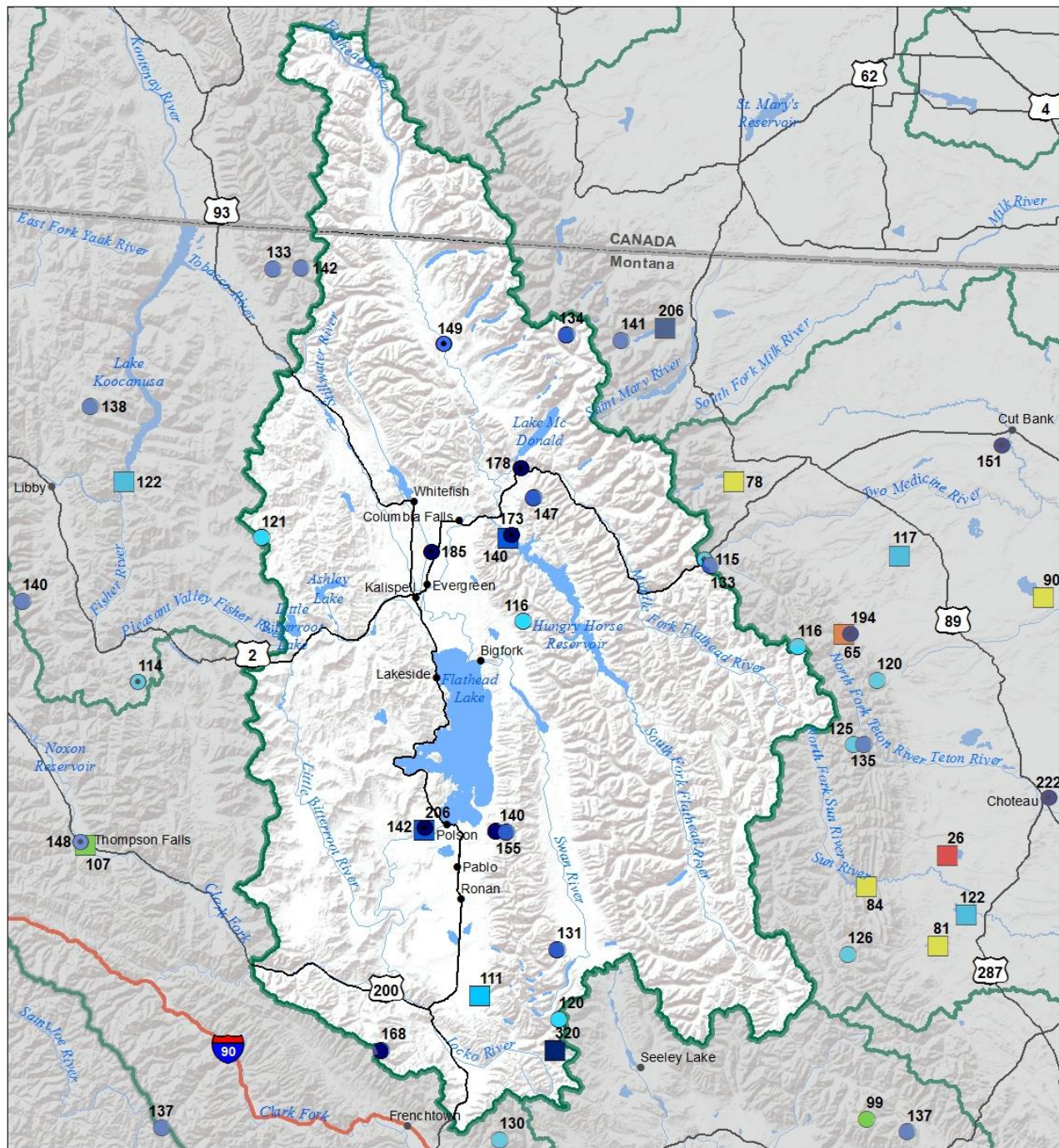
1) 90% and 10% exceedance probabilities are actually 95% and 5%

2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions

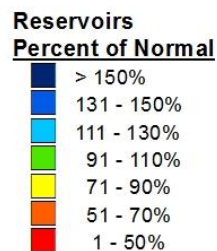
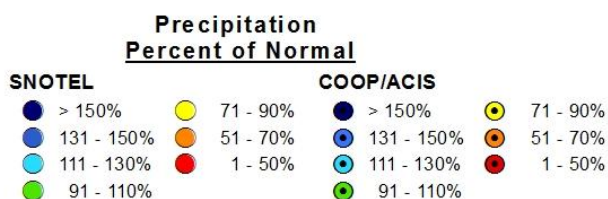
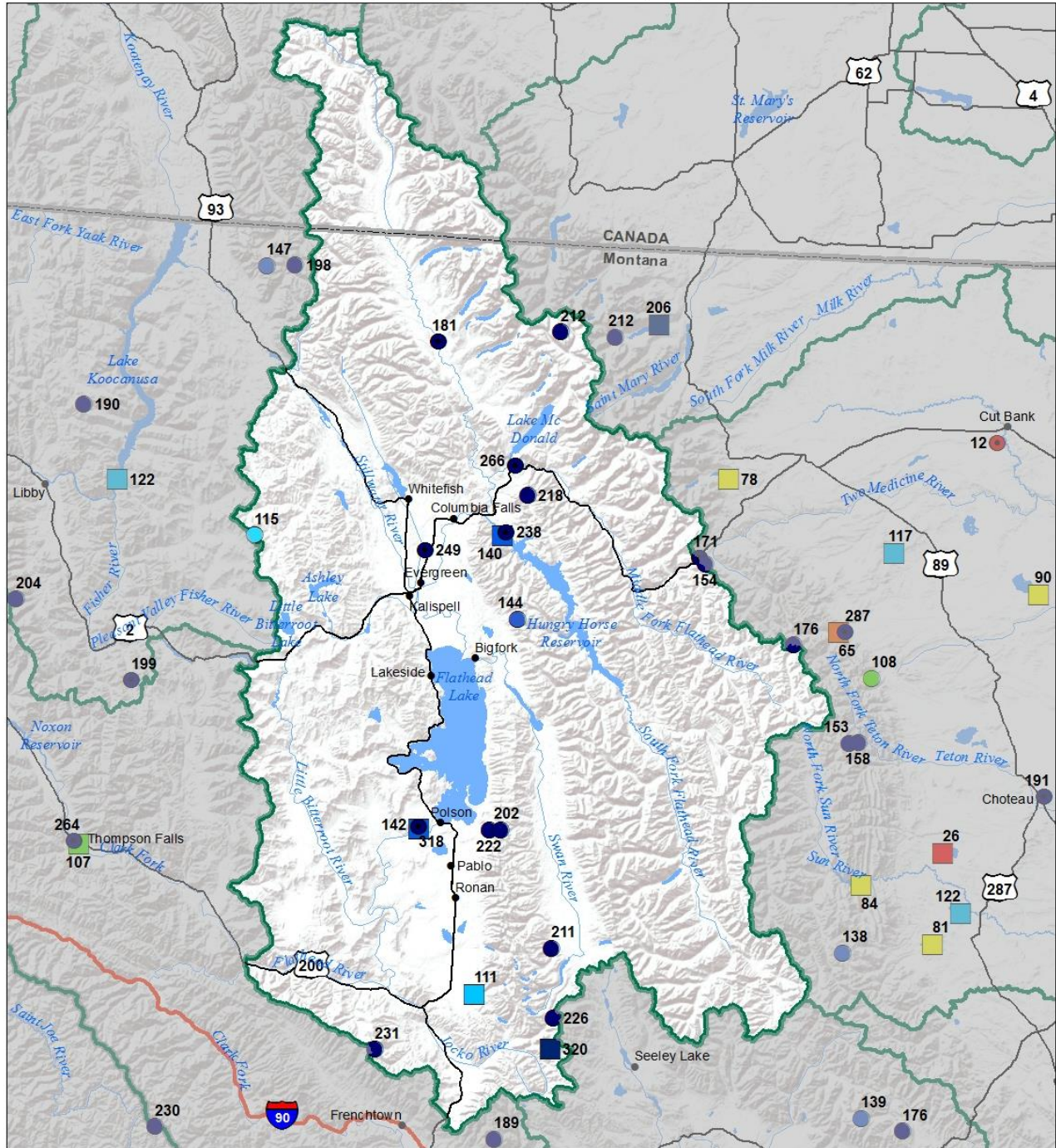
Flathead River Basin Streamflow Forecast, Snow Water Equivalent Percentage of Normal April 1, 2017



Flathead River Basin Water Year to Date Precipitation and Reservoir Levels Percentage of Normal April 1, 2017



Flathead River Basin
Monthly Precipitation and Reservoir Levels
Percentage of Normal
April 1, 2017 (March 1, 2017 - April 1, 2017)



Upper Clark Fork River Basin



Snowpack totals in the Upper Clark Fork River basin vary widely based on location for April 1st. The Blackfoot, Flint Creek and Rock Creek basins have snowpack totals that are near normal for this date, while the upper reaches of the Clark Fork River basin have a snowpack that is below normal. Snow during the first half of March helped to increase snow totals across the basin, but the latter half of the month brought sunny days and well above average temperatures. Low elevation sites below 7000' experienced melt during this time but sites above that elevation saw little discharge from the snowpack. The headwaters around Butte have a snowpack that is well below average for this date and saw significant decreases over the month. Mid to high elevation snow in the basin remains to enter the rivers. The months of April and May offer chances for additional snowfall in the basin and basin-wide snowpack typically peaks during the month of April. Streamflow forecasts vary widely across the basin due to the differences in snowpack and water year precipitation. Consult the table below for individual forecast points.

Upper Clark Fork River Basin Data Summary

Snowpack	Percent of 1981-2010 Normal (Median)	Last Year Percentage of Normal (Median)
CLARK FORK ab FLINT CREEK	85%	98%
FLINT CREEK	96%	100%
ROCK CREEK	106%	107%
CLARK FORK ab BLACKFOOT	90%	99%
BLACKFOOT	97%	88%
Basin-Wide	93%	95%

Precipitation	Monthly Percentage of Average	WYTD Percentage of 1981-2010 Average*	WYTD Last Year Percentage of Average
Mountain Precipitation	149%	114%	97%
Valley Precipitation	113%	134%	112%
Basin-Wide Precipitation	148%	115%	97%

*Water Year-to-Date (WYTD) Precipitation is October 1st - Current

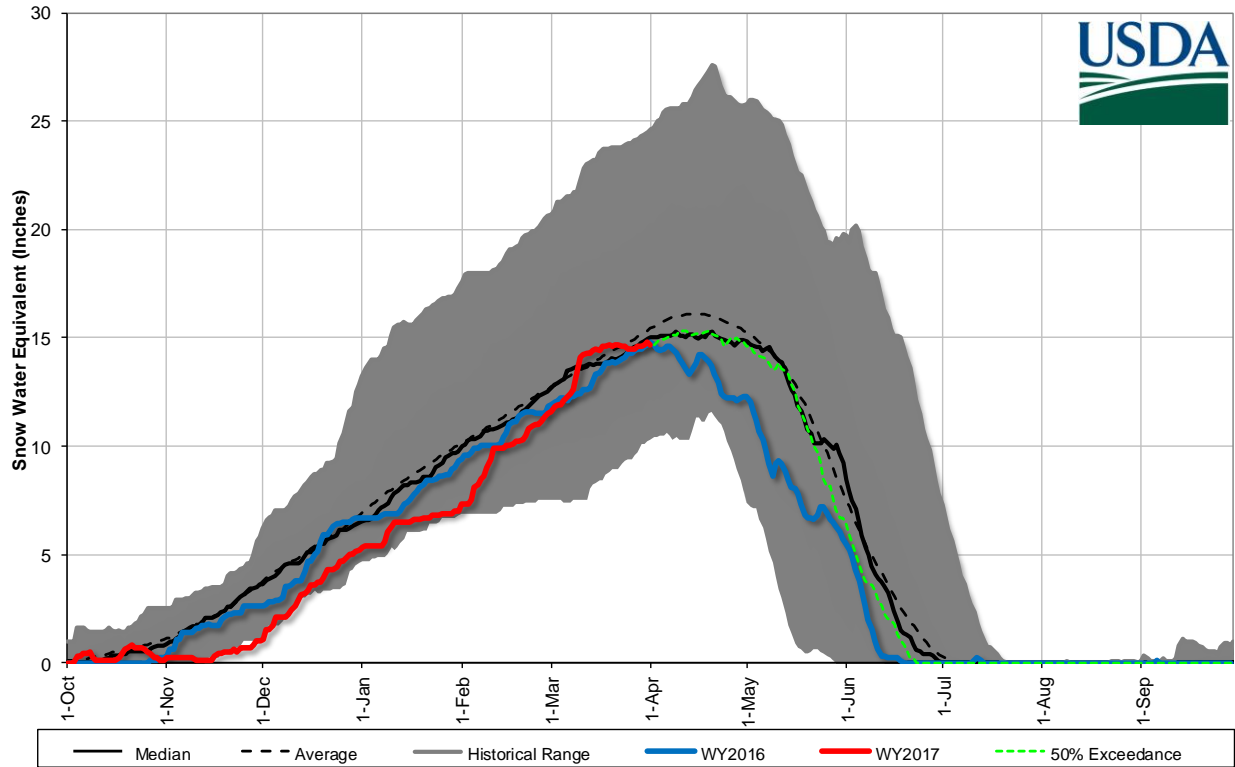
Reservoir Storage	Percentage of Average	Percentage of Capacity (Total)	Last Year Percentage of Average
Basin-Wide Storage	107%	81%	100%

*See Reservoir Storage Table for storage in individual reservoirs

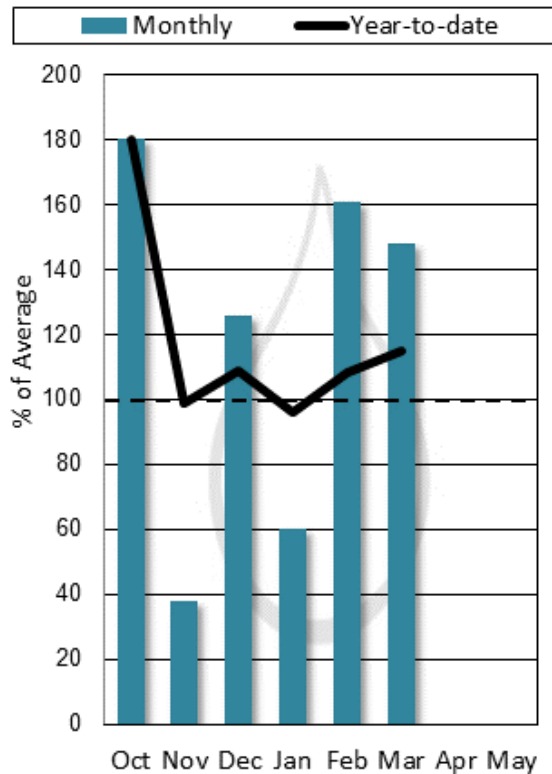
End of Month Storage	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)	% Average	% Capacity
East Fork Rock Creek Res	9.0	8.8	9.1	15.6	99%	99%
Georgetown Lake	28.9	29.4	27.8	31.0	104%	104%
Lower Willow Creek Reservoir		2.4	3.0	4.9		
Nevada Creek Res	9.8	6.5	7.7	12.6	127%	127%

Upper Clark Fork River Basin Snowpack with Non-Exceedence Projections

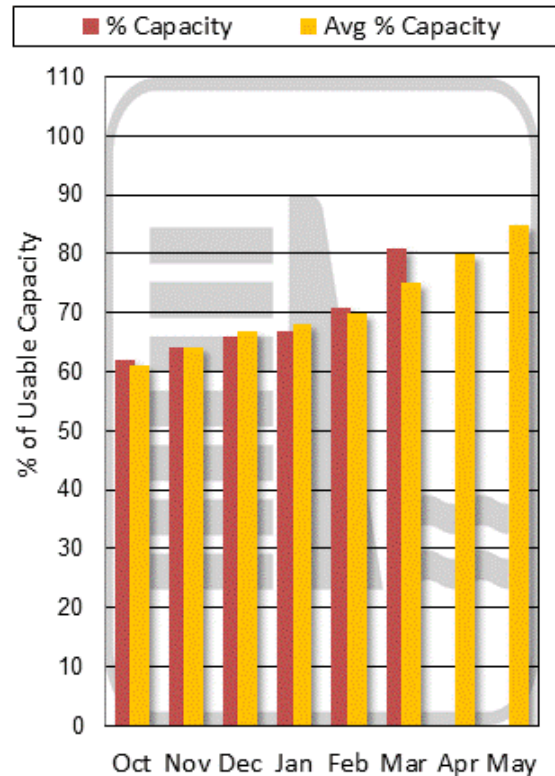
Based on provisional SNOTEL daily data as of 4/1/2017



Mountain and Valley Precipitation



End of Month Reservoir Storage



Storage above is averaged for all reservoirs in the basin. For individual reservoirs see table below.

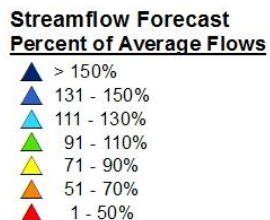
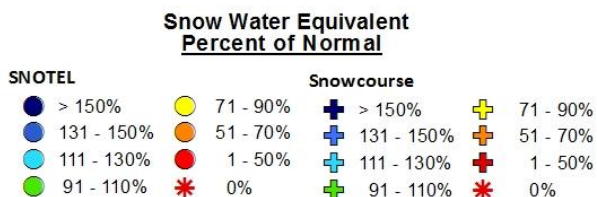
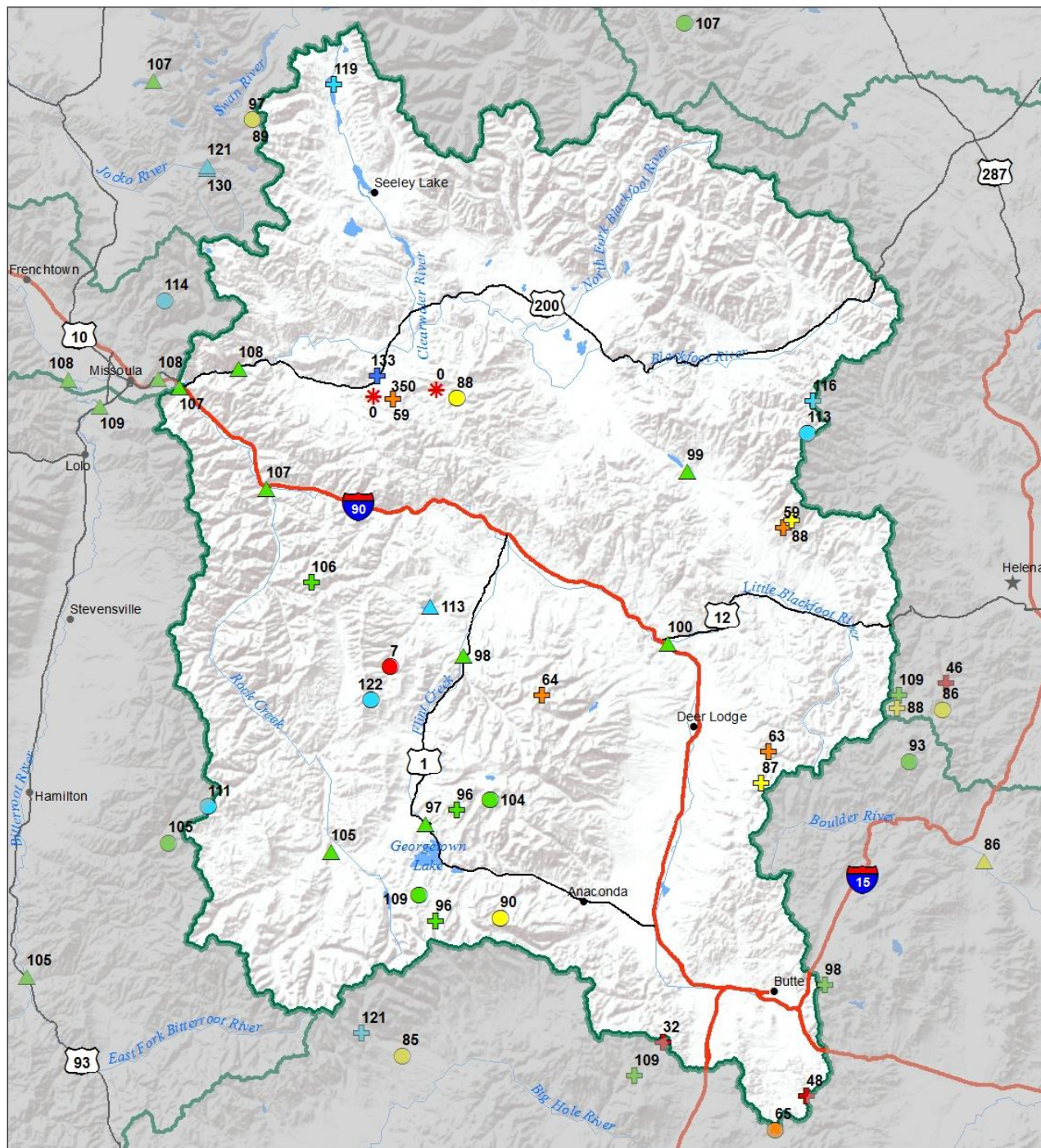
Upper Clark Fork River Basin

Forecast Point	Forecast Period	Chance Actual Volume Will Exceed Forecasted Volume						30yr Avg (KAF)
		90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	
Little Blackfoot nr Garrison	APR-JUL	43	59	70	100%	81	97	70
	APR-SEP	46	64	77	100%	89	107	77
Flint Ck nr Southern Cross	APR-JUL	5.8	9.5	12	97%	14.5	18.2	12.4
	APR-SEP	6.4	11	14.2	97%	17.4	22	14.6
Flint Ck bl Boulder Ck	APR-JUL	27	41	51	98%	60	74	52
	APR-SEP	36	53	65	98%	76	93	66
Lower Willow Ck Reservoir Inflow ²	APR-MAY	4.6	6.7	8.1	111%	9.5	11.6	7.3
	APR-JUL	6.4	9.7	12	113%	14.3	17.6	10.6
MF Rock Ck nr Philipsburg	APR-JUL	44	54	60	103%	66	76	58
	APR-SEP	50	61	68	105%	75	86	65
Rock Ck nr Clinton	APR-JUL	184	230	260	104%	290	335	250
	APR-SEP	215	265	300	107%	335	385	280
Clark Fork R ab Milltown	APR-JUL	325	460	555	105%	645	780	530
	APR-SEP	400	550	655	107%	755	905	615
Nevada Ck nr Helmville	APR-MAY	3.3	6.4	8.5	101%	10.6	13.7	8.4
	APR-JUL	5.4	10.6	14.1	99%	17.6	23	14.2
Blackfoot R nr Bonner	APR-JUL	600	705	775	108%	850	955	720
	APR-SEP	670	785	860	108%	940	1050	800
Clark Fork R ab Missoula	APR-JUL	970	1190	1340	107%	1490	1710	1250
	APR-SEP	1120	1360	1530	108%	1690	1930	1420

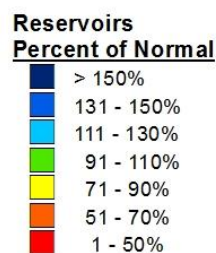
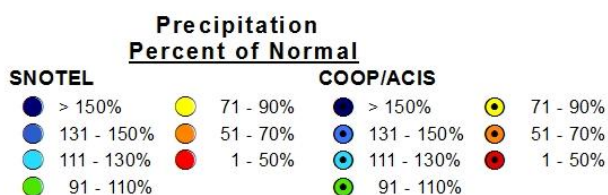
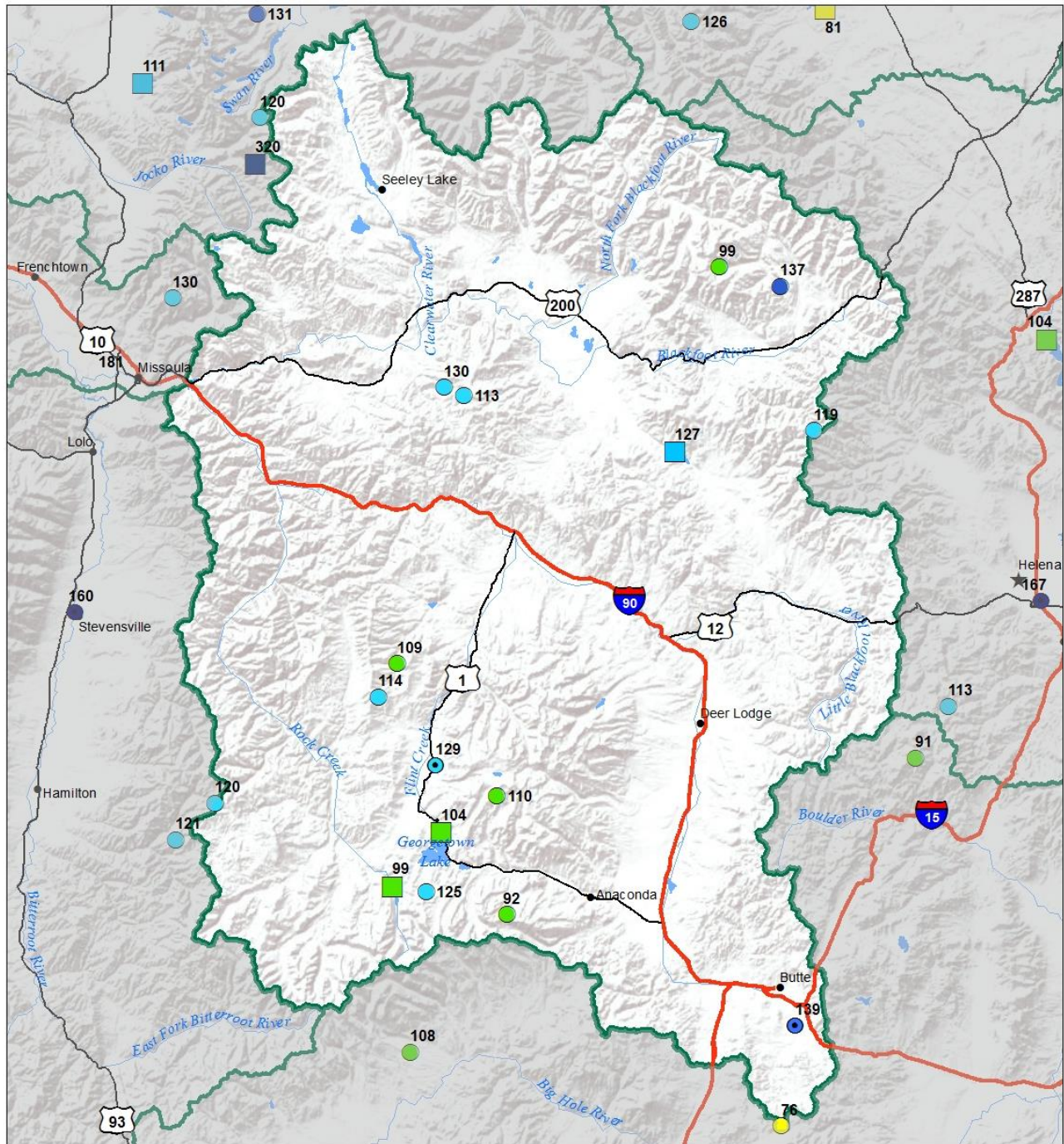
1) 90% and 10% exceedance probabilities are actually 95% and 5%

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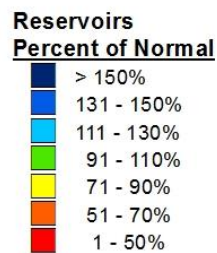
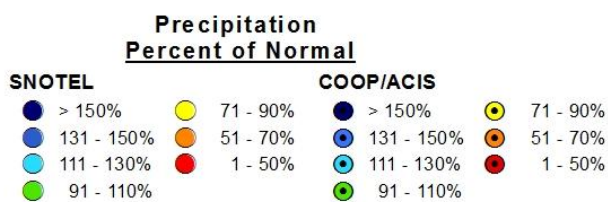
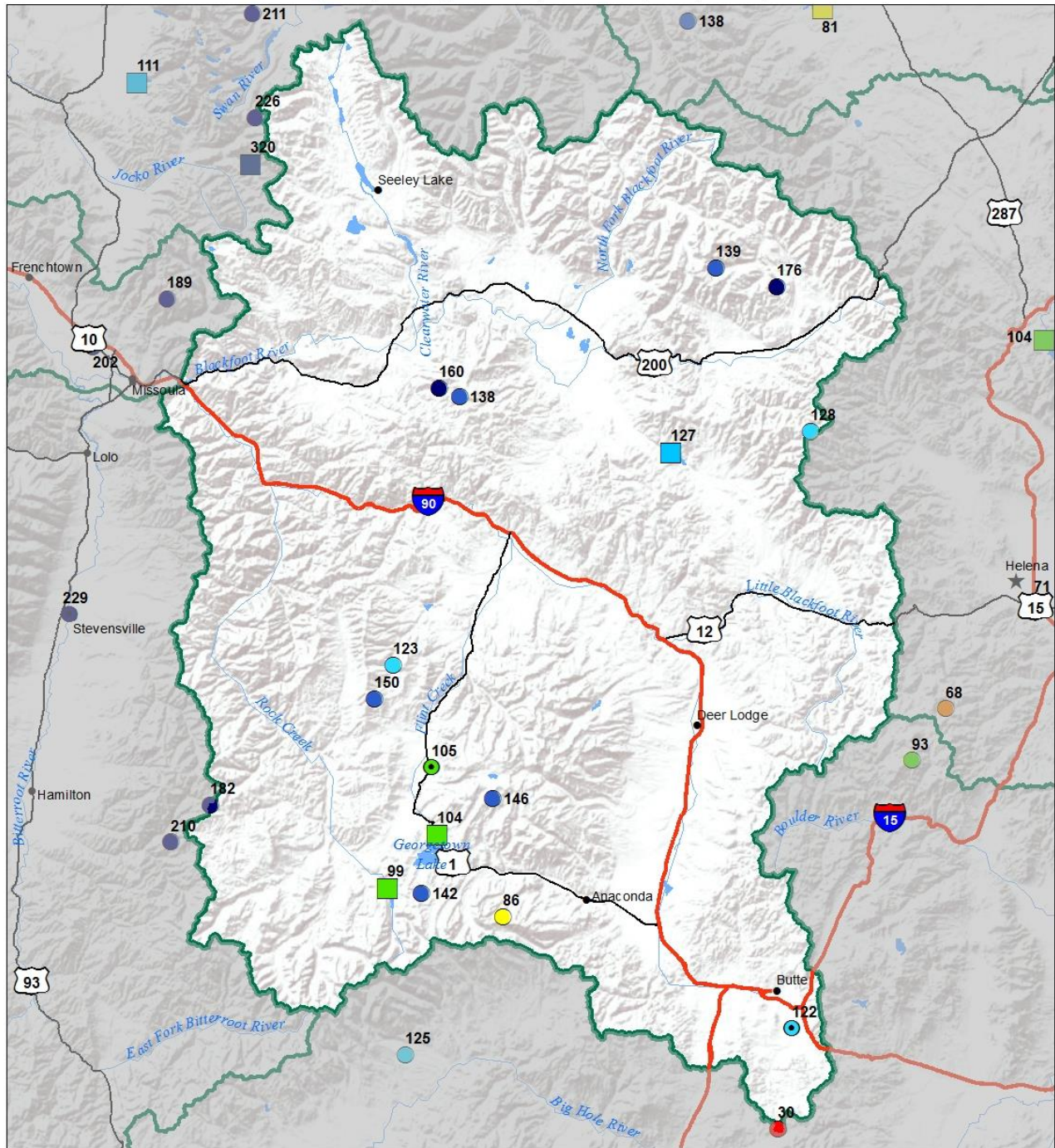
**Upper Clark Fork River Basin
Streamflow Forecast, Snow Water Equivalent
Percentage of Normal
April 1, 2017**



Upper Clark Fork River Basin Water Year to Date Precipitation and Reservoir Levels Percentage of Normal April 1, 2017



Upper Clark Fork River Basin
Monthly Precipitation and Reservoir Levels
Percentage of Normal
April 1, 2017 (March 1, 2017 - April 1, 2017)



Bitterroot River Basin



The first half of March brought well above normal snowfall to the Bitterroot River basin, but a change to warm and dry conditions mid-month cause some loss of snowpack at low elevations in the basin. Low elevation SNOTEL sites in the basin potentially hit their water year peak during the mid-March, which is a little ahead of the 30 year normal. High elevation sites did not experience significant melt during the latter half of the month and will likely see their water year peaks during the month of April. Snowpack totals for April 1st are near to above normal due to the consistent winter snowfall and early March snowfall, even with losses of low elevation snowpack the basin is up 6% from March 1st. Water year-to-date precipitation remains well above average due to the early season precipitation, and this coupled with near normal snowpack totals resulted in streamflow forecasts on April 1st that are near to above average for the April 1 – July 31 time period.

Bitterroot River Basin Data Summary

Snowpack

	Percent of 1981-2010 Normal (Median)	Last Year Percentage of Normal (Median)
WEST FORK BITTERROOT	100%	103%
EAST SIDE BITTERROOT	105%	99%
WEST SIDE BITTERROOT	106%	95%
Basin-Wide	105%	97%

Precipitation

	Monthly Percentage of Average	WYTD Percentage of 1981-2010 Average*	WYTD Last Year Percentage of Average
Mountain Precipitation	197%	119%	100%
Valley Precipitation	229%	160%	102%
Basin-Wide Precipitation	198%	120%	100%

*Water Year-to-Date (WYTD) Precipitation is October 1st - Current

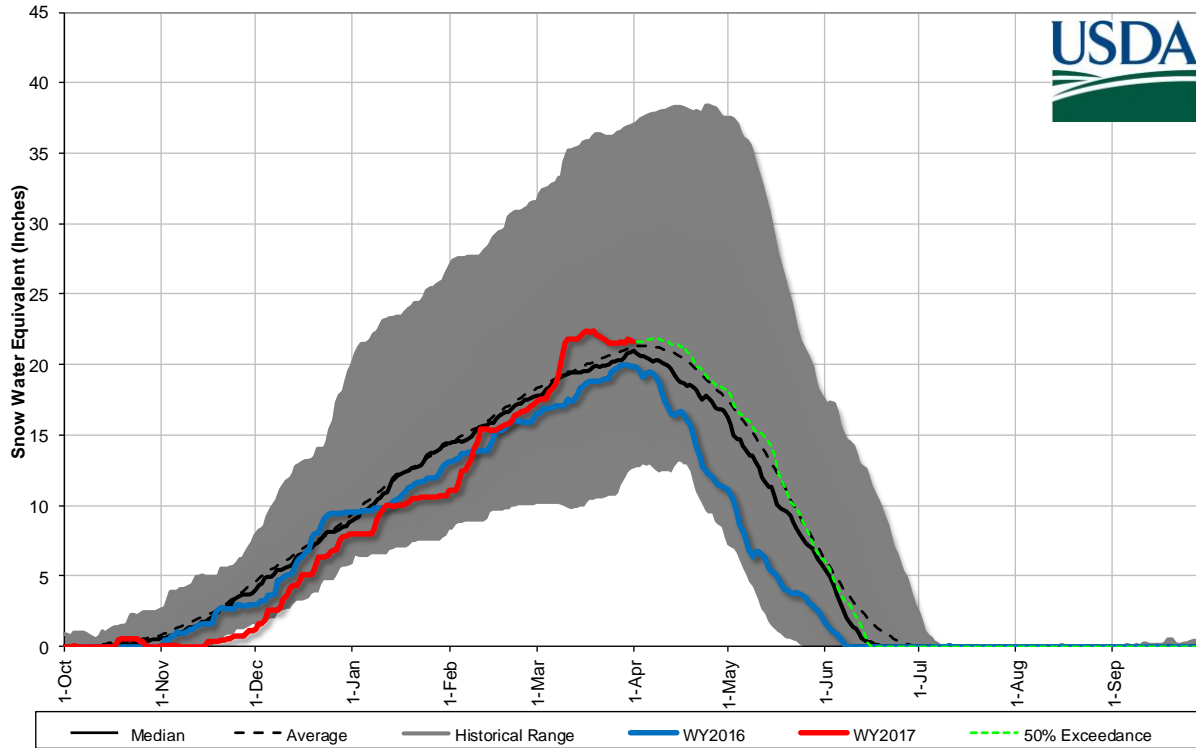
	Percentage of Average	Percentage of Capacity (Total)	Last Year Percentage of Average
Basin-Wide Storage	178%	65%	141%

*See Reservoir Storage Table for storage in individual reservoirs

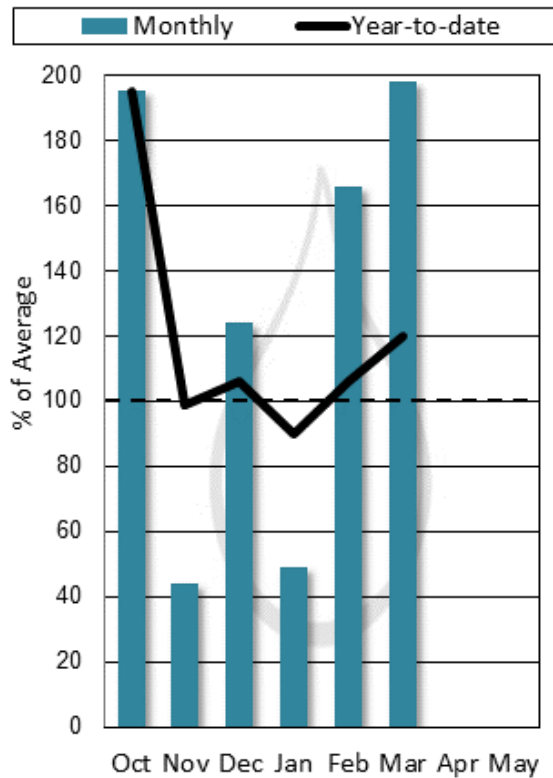
End of Month Storage

	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)	% Average	% Capacity
Painted Rocks Lake	15.4	16.1	8.7	31.7	177%	49%
Lake Como	27.9	18.1	15.6	34.9	179%	80%

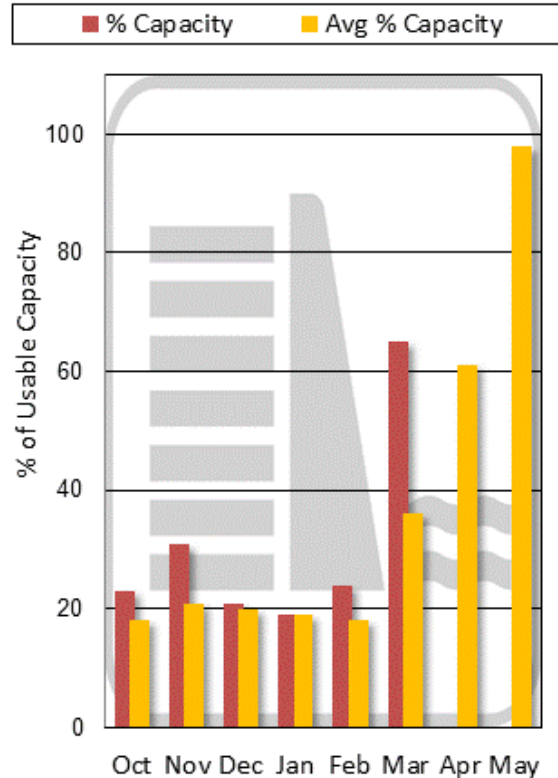
Bitterroot River Basin Snowpack with Non-Exceedence Projections
Based on provisional SNOTEL daily data as of 4/1/2017



**Mountain and Valley
Precipitation**



**End of Month Reservoir
Storage**



Storage above is averaged for all reservoirs in the basin. For individual reservoirs see table below.

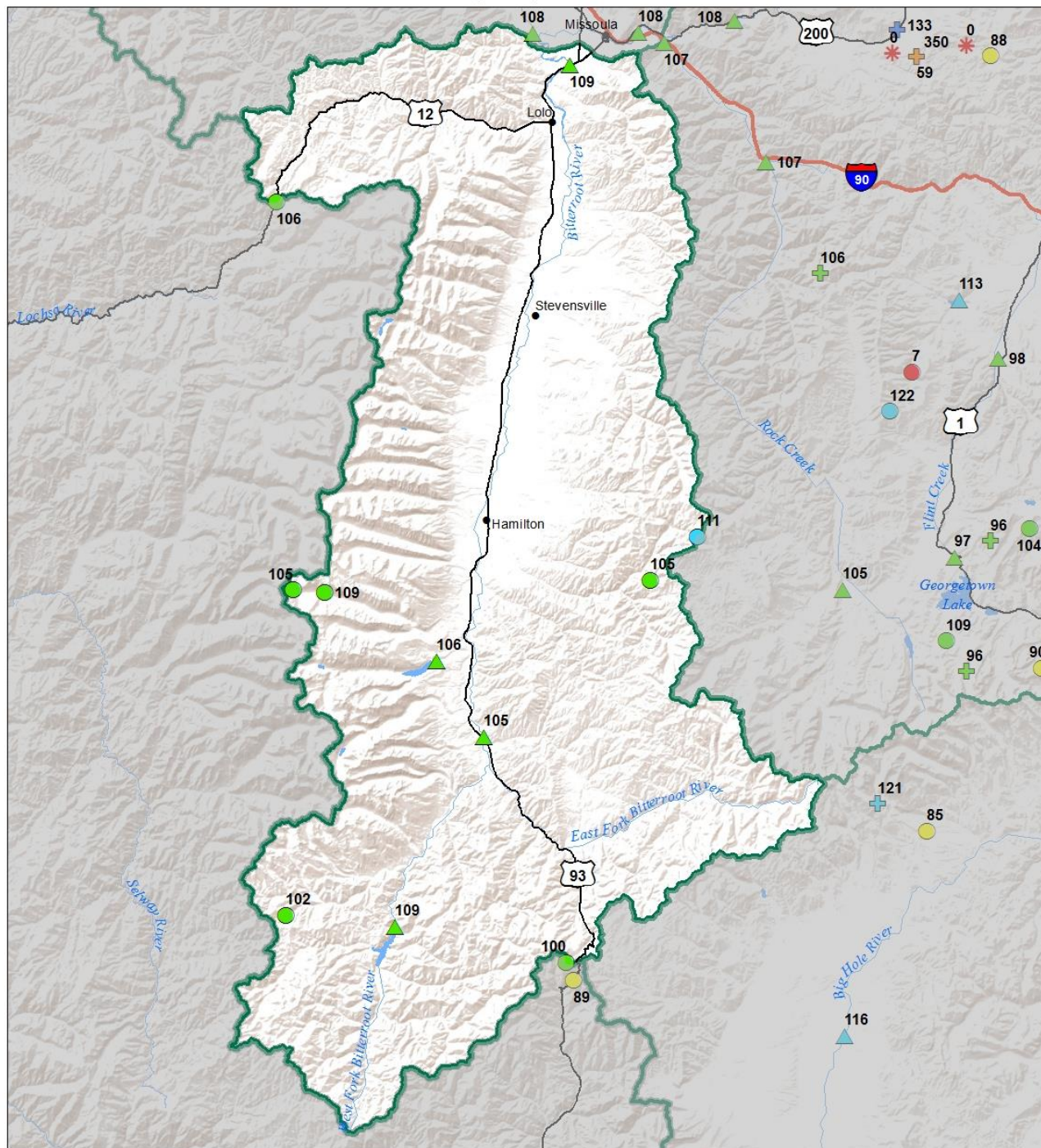
Bitterroot River Basin

Forecast Point	Forecast Period	Chance Actual Volume Will Exceed Forecasted Volume						30yr Avg (KAF)
		90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	
WF Bitterroot R Nr Conner ²	APR-JUL	99	124	141	110%	158	183	128
	APR-SEP	107	133	151	109%	169	196	139
Bitterroot R Nr Darby	APR-JUL	325	395	445	101%	495	570	440
	APR-SEP	380	450	500	105%	550	620	475
Como Reservoir Inflow ²	APR-JUL	69	76	81	107%	85	93	76
	APR-SEP	71	79	84	106%	90	97	79
Bitterroot R nr Missoula	APR-JUL	1010	1160	1270	110%	1370	1520	1150
	APR-SEP	1080	1250	1360	109%	1470	1640	1250

1) 90% and 10% exceedance probabilities are actually 95% and 5%

2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions

Bitterroot River Basin
Streamflow Forecast, Snow Water Equivalent
Percentage of Normal
April 1, 2017



Snow Water Equivalent
Percent of Normal

SNOTEL

- > 150%
- 131 - 150%
- 111 - 130%
- 91 - 110%

- 71 - 90%
- 51 - 70%
- 1 - 50%
- 0%

Snowcourse

- ✚ > 150%
- ✚ 131 - 150%
- ✚ 111 - 130%
- ✚ 91 - 110%

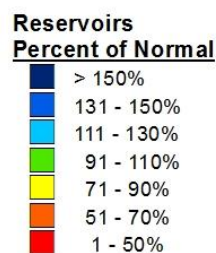
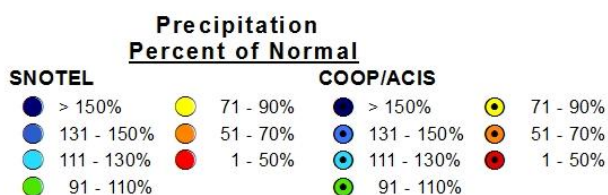
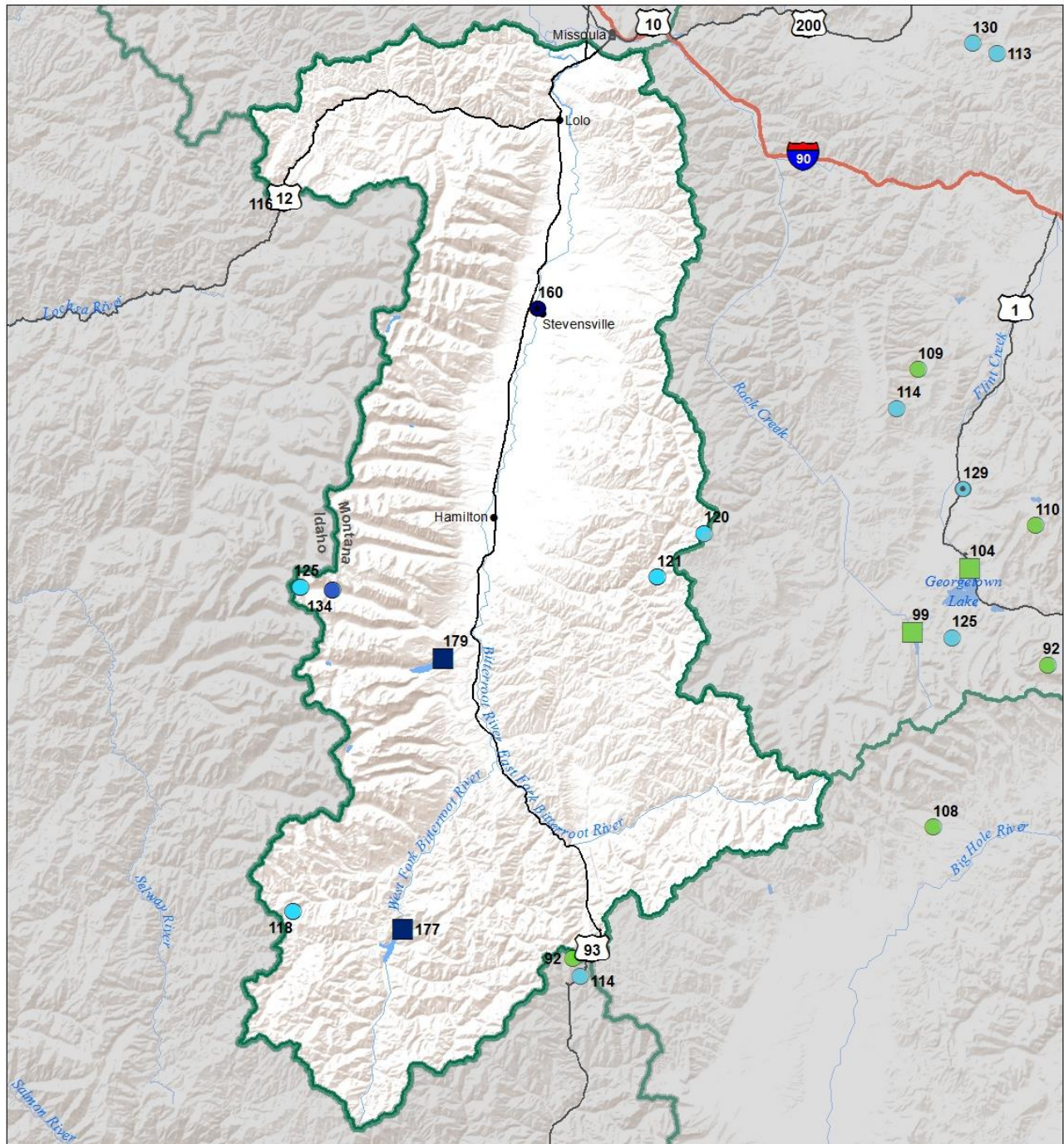
- ✚ 71 - 90%
- ✚ 51 - 70%
- ✚ 1 - 50%
- ✚ 0%

Streamflow Forecast
Percent of Average Flows

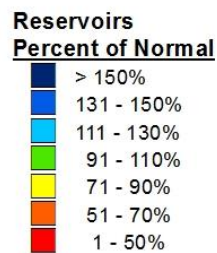
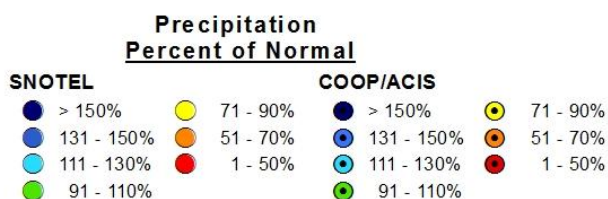
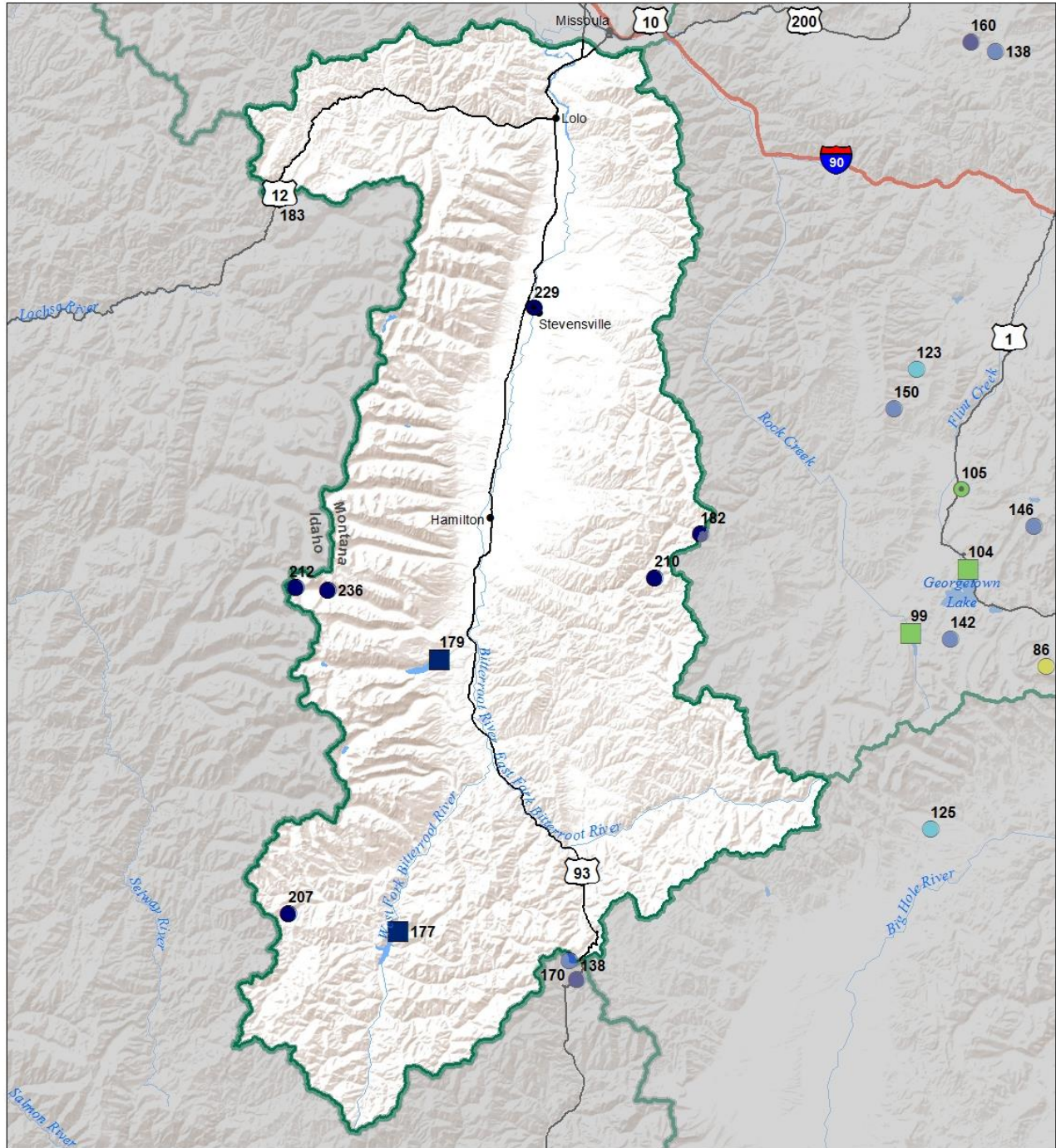
- ▲ > 150%
- ▲ 131 - 150%
- ▲ 111 - 130%
- ▲ 91 - 110%
- ▲ 71 - 90%
- ▲ 51 - 70%
- ▲ 1 - 50%



Bitterroot River Basin
Water Year to Date Precipitation and Reservoir Levels
Percentage of Normal
April 1, 2017



Bitterroot River Basin
Monthly Precipitation and Reservoir Levels
Percentage of Normal
April 1, 2017 (March 1, 2017 - April 1, 2017)



Lower Clark Fork River Basin



Basin-wide snowpack in the Lower Clark Fork River basin is above normal for the first time this water year due to the abundant snowfall during the first half of May. Snow totals have risen substantially from Feb 1st when snowpack was well below normal. Although the early March snow did increase snow totals, melt during the latter half of the month at low elevations did occur below 5000' to 6000'. Even with the melt, all snow measurement sites are above normal for April 1st. High elevation sites are well above normal for snowpack at this time, and low to mid-elevation sites are near to above normal. Two mountain locations reported their highest March monthly precipitation totals on record (Hoodoo Basin and Sleeping Woman SNOTEL) and one valley location also reported highest on record (Thompson Falls). Sleeping Woman SNOTEL, located 20 miles northwest of Missoula, is also reporting the highest water year-to-date precipitation total on record. Precipitation has been abundant in the basin this year and water year totals are above average basin-wide. Volumetric streamflow forecasts reflect the above average water year precipitation and slightly above average snowpack and are above average for the April 1 – July 31 time period.

Lower Clark For River Basin Data Summary

Snowpack	Percent of 1981-2010 Normal (Median)	Last Year Percentage of Normal (Median)
LOWER CLARK FORK RIVER BASIN	106%	91%
Basin-Wide	106%	91%

Precipitation	Monthly Percentage of Average	WYTD Percentage of 1981-2010 Average*	WYTD Last Year Percentage of Average
Mountain Precipitation	212%	135%	106%
Valley Precipitation	223%	150%	106%
Basin-Wide Precipitation	214%	137%	106%

*Water Year-to-Date (WYTD) Precipitation is October 1st - Current

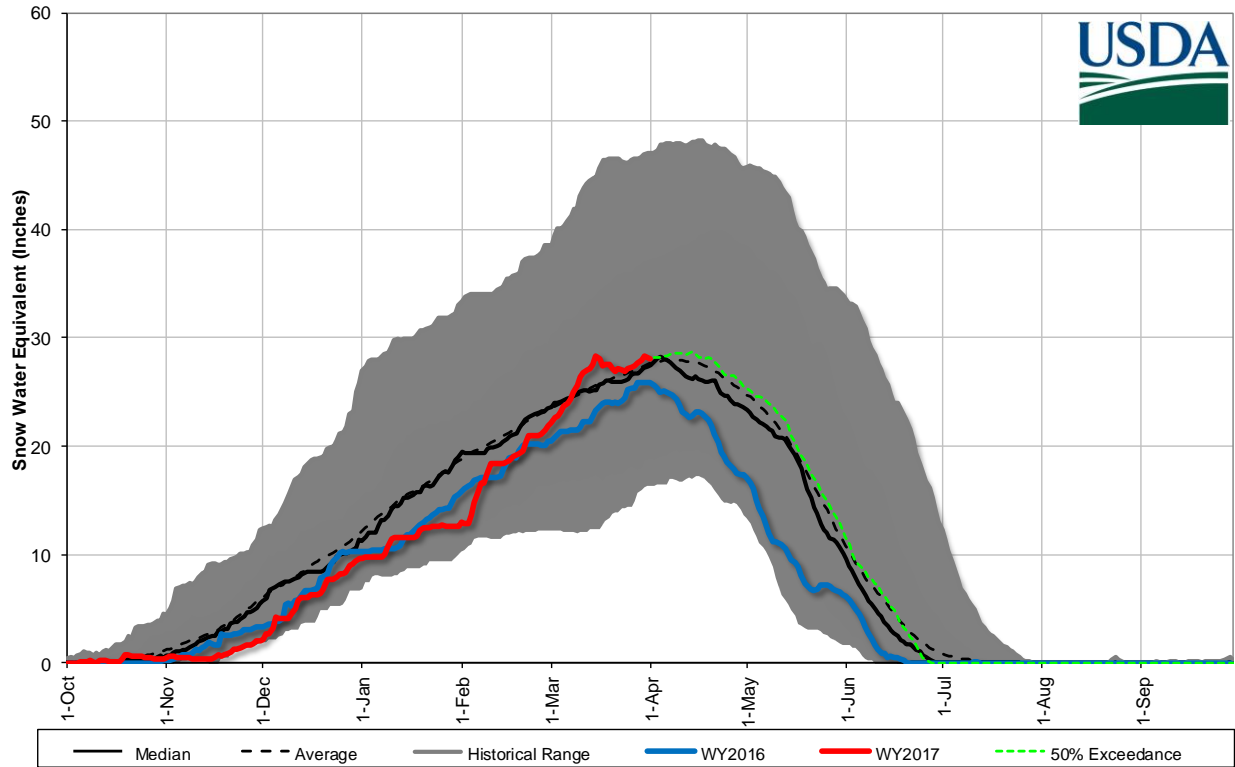
Reservoir Storage	Percentage of Average	Percentage of Capacity (Total)	Last Year Percentage of Average
Basin-Wide Storage	107%	99%	100%

*See Reservoir Storage Table for storage in individual reservoirs

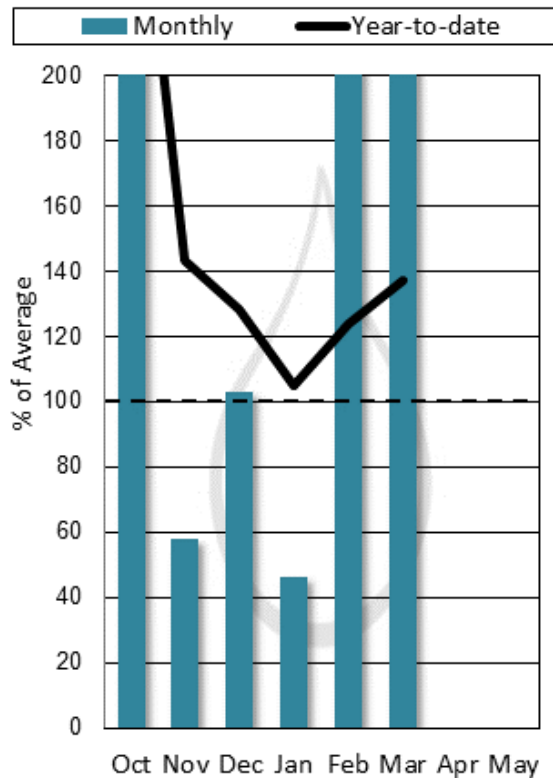
End of Month Storage	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)	% Average	% Capacity
Noxon Rapids Reservoir	330.089	310.7	309.9	335	107%	99%

Lower Clark Fork River Basin Snowpack with Non-Exceedence Projections

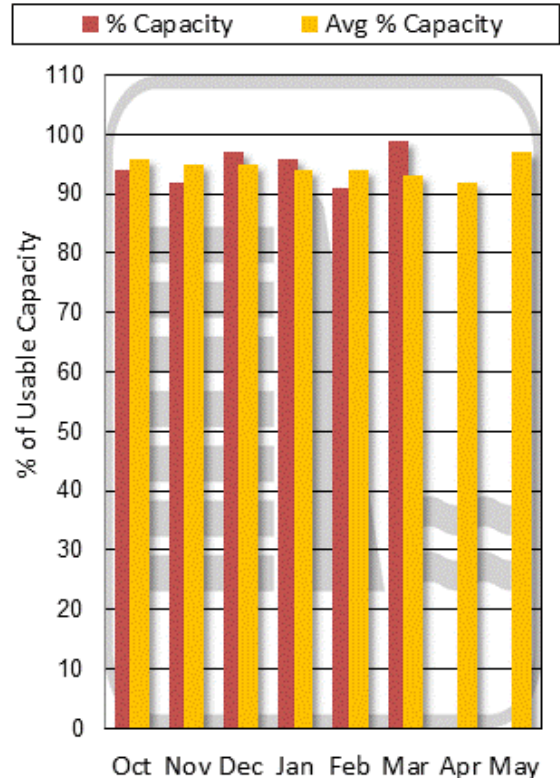
Based on provisional SNOTEL daily data as of 4/1/2017



Mountain and Valley Precipitation



End of Month Reservoir Storage



Storage above is averaged for all reservoirs in the basin. For individual reservoirs see table below.

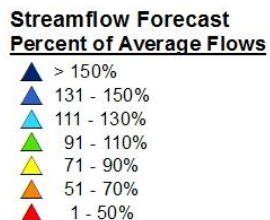
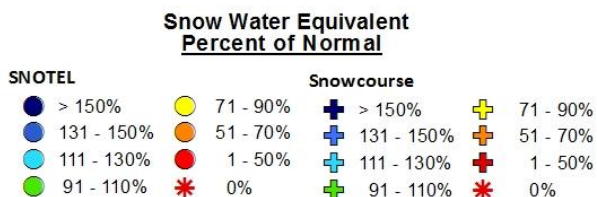
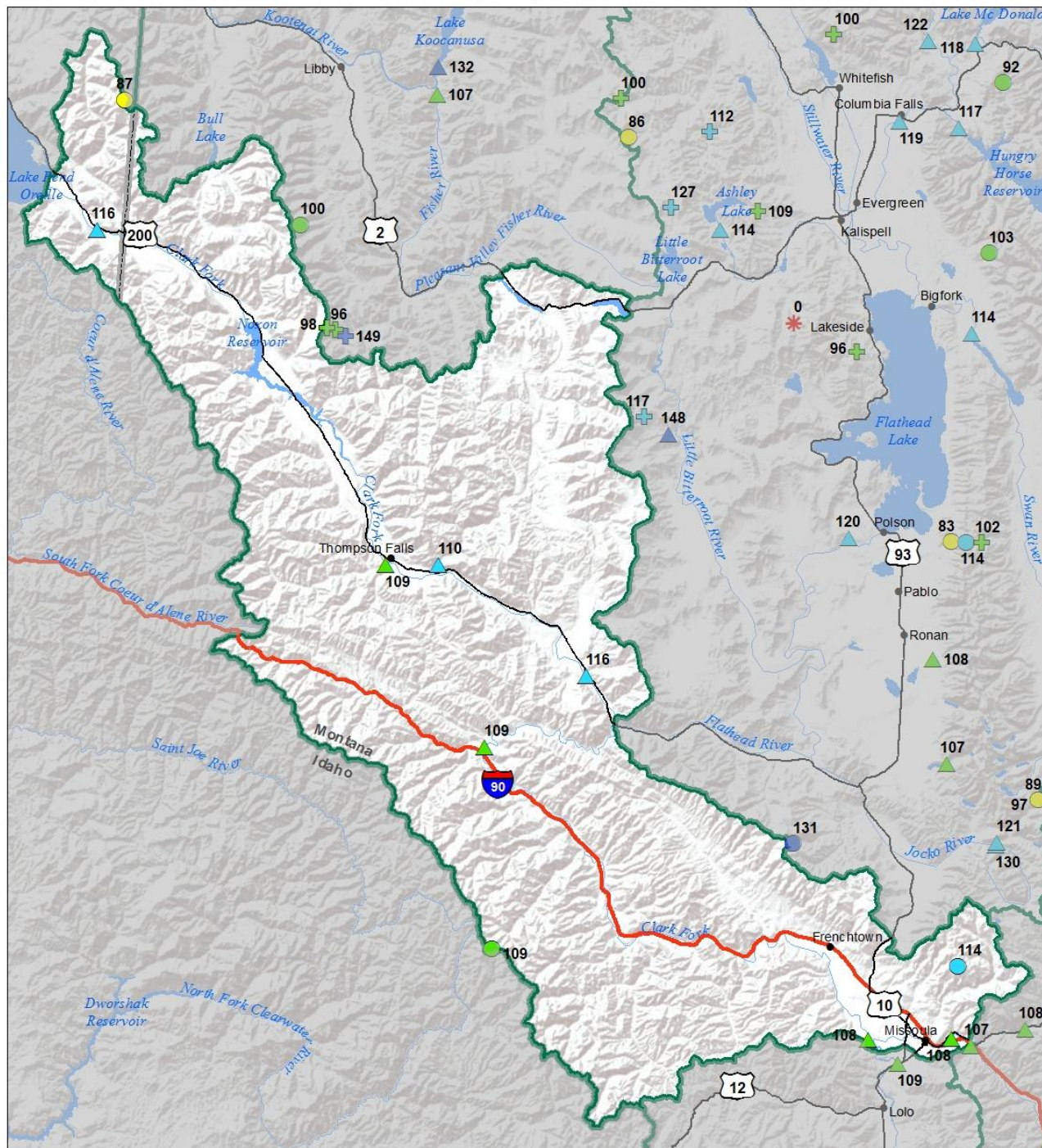
Lower Clark Fork River Basin

Forecast Point	Forecast Period	Chance Actual Volume Will Exceed Forecasted Volume						30yr Avg (KAF)
		90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	
Clark Fork R bl Missoula	APR-JUL	2020	2370	2610	109%	2860	3210	2400
	APR-SEP	2230	2620	2890	108%	3150	3540	2670
Clark Fork R at St. Regis ¹	APR-JUL	2530	3160	3450	109%	3730	4370	3160
	APR-SEP	2820	3500	3810	109%	4120	4810	3510
Clark Fork R nr Plains ^{1,2}	APR-JUL	8810	10200	10800	117%	11400	12800	9200
	APR-SEP	9500	11000	11700	116%	12400	14000	10100
Thompson nr Thompson Falls	APR-JUL	143	176	198	109%	220	255	181
	APR-SEP	164	199	225	110%	245	280	205
Prospect Ck at Thompson Falls	APR-JUL	93	104	112	110%	120	131	102
	APR-SEP	100	112	120	109%	128	140	110
Clark Fork R at Whitehorse Rapids ^{1,2}	APR-JUL	10200	11600	12200	116%	12900	14300	10500
	APR-SEP	10900	12500	13300	116%	14000	15600	11500

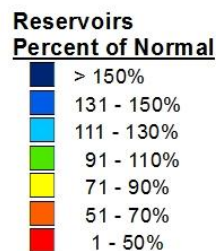
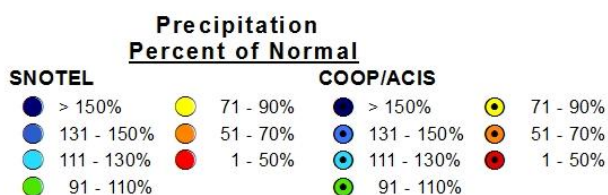
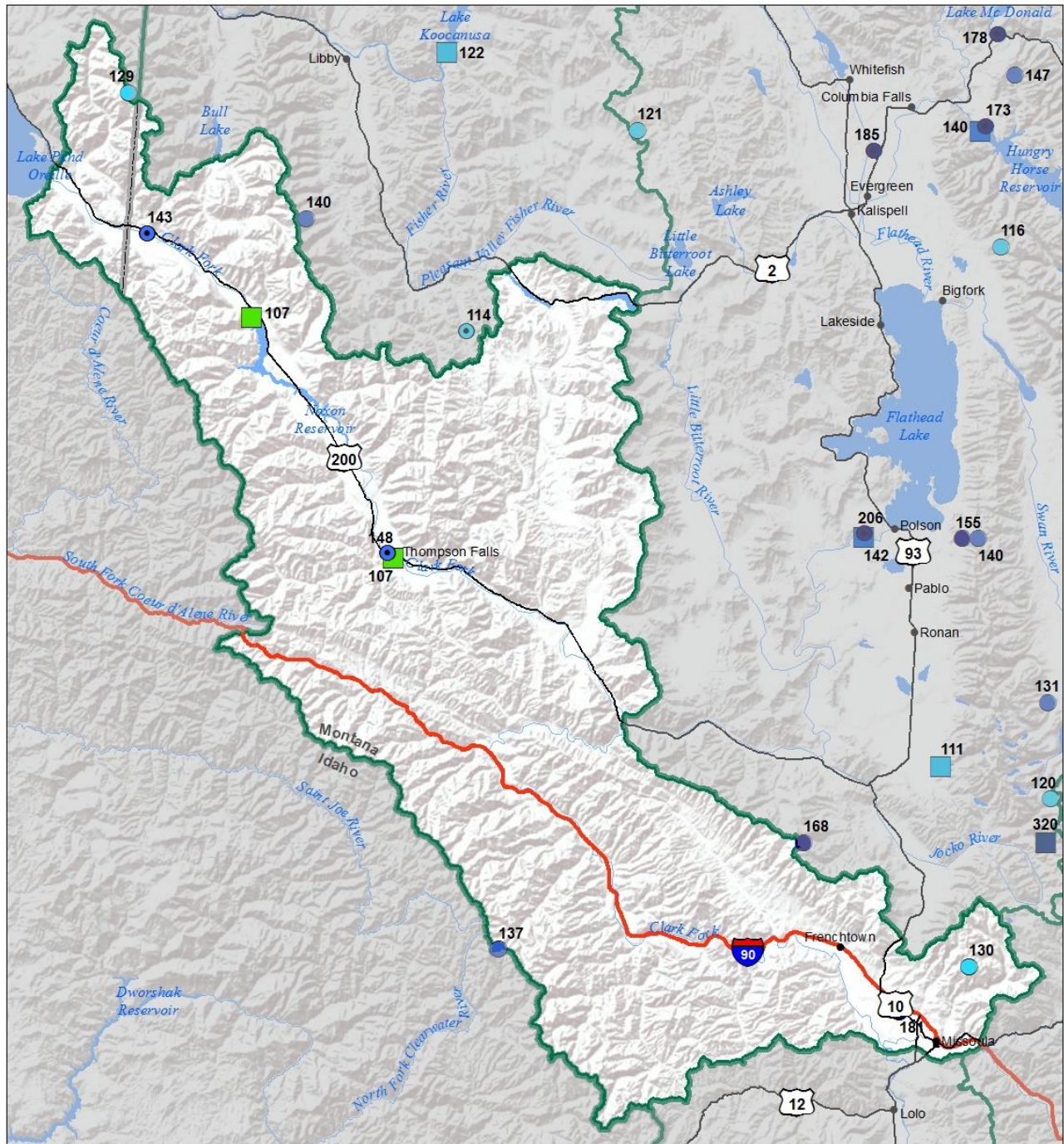
1) 90% and 10% exceedance probabilities are actually 95% and 5%

2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions

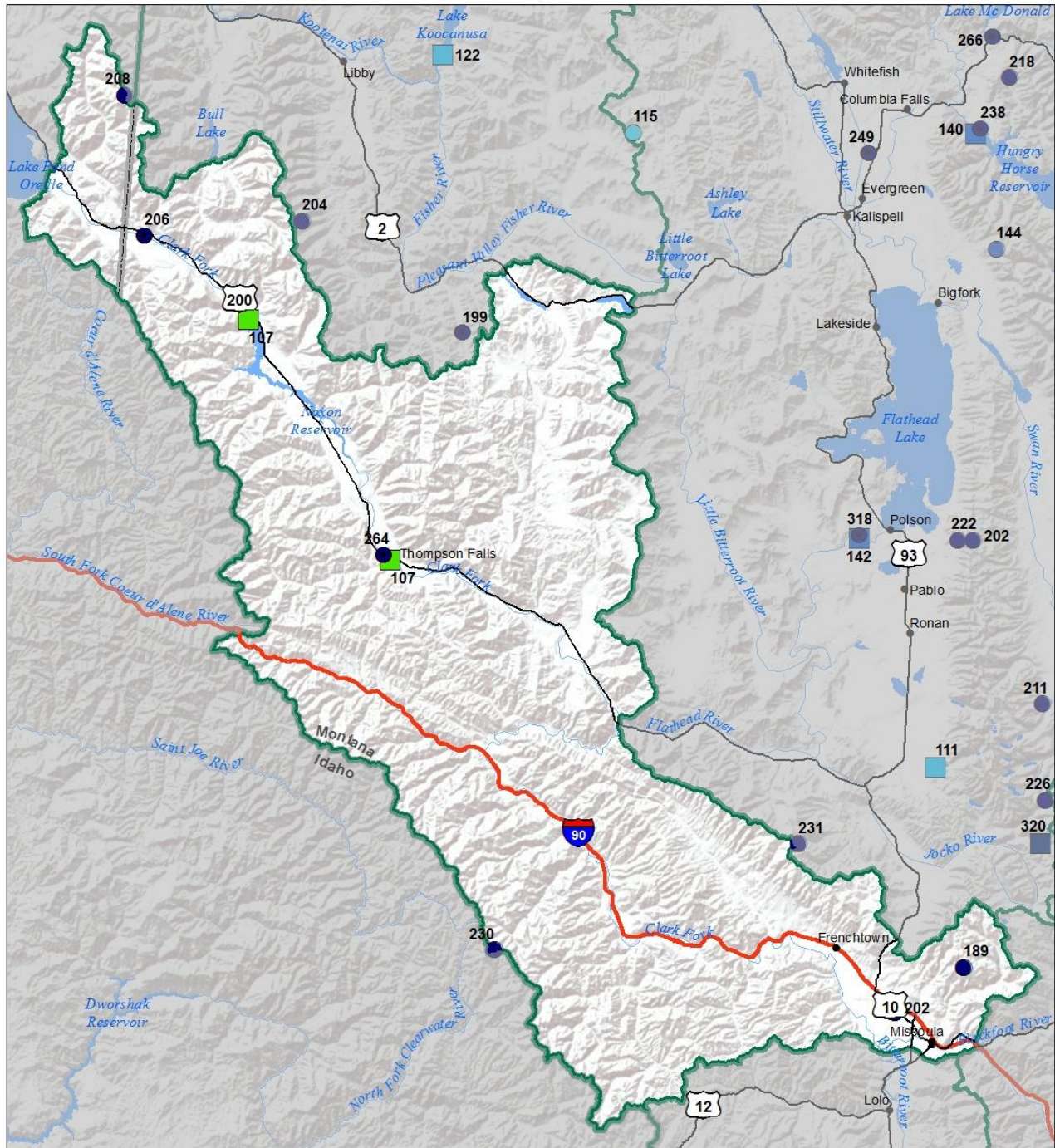
**Lower Clark Fork River Basin
Streamflow Forecast, Snow Water Equivalent
Percentage of Normal
April 1, 2017**



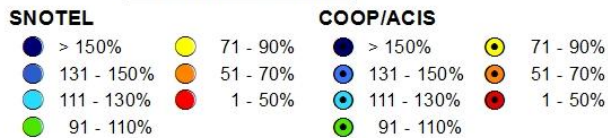
**Lower Clark Fork River Basin
Water Year to Date Precipitation and Reservoir Levels
Percentage of Normal
April 1, 2017**



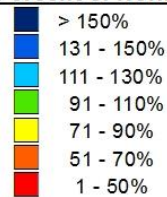
Lower Clark Fork River Basin
Monthly Precipitation and Reservoir Levels
Percentage of Normal
April 1, 2017 (March 1, 2017 - April 1, 2017)



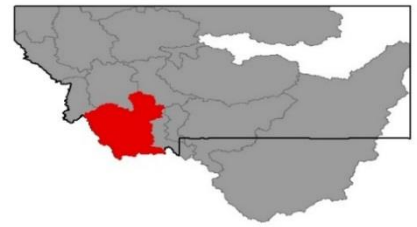
Precipitation
Percent of Normal



Reservoirs
Percent of Normal



Jefferson River Basin



April 1 percentages vary widely across the Jefferson River basin. Snowpack along the Idaho border in the Big Hole River basin and Tobacco Root Range is well above normal for this date, while other areas are below normal. Snowfall during the first half of the month helped all basins to see some improvement from March 1 totals, but the transition to warm and dry conditions mid-month resulted in low elevation snow loss below 7000'. Snowpack totals in the Ruby River basin are currently the lowest in the greater basin reporting 30% to 79% of normal snowpack for April 1. Two sites in the Ruby drainage are the second lowest on record (Clover Meadow and Short Creek SNOTELs). Snowpack is also below normal in the Boulder River basin which experienced losses of low and mid elevation snowpack during the latter half of the month. While monthly precipitation totals were lackluster in most of the region, fall and winter precipitation has been well above average and most sites are near to well above average for water year totals. Streamflow forecasts vary from above average in the Big Hole to well below average in the Ruby, so water users should consult the streamflow table below for individual point forecast in their area.

Jefferson River Basin Data Summary

Snowpack	Percent of 1981-2010 Normal (Median)	Last Year Percentage of Normal (Median)
BEAVERHEAD	108%	114%
RUBY	89%	103%
BIGHOLE	106%	112%
BOULDER	84%	120%
Basin-Wide	100%	111%

Precipitation	Monthly Percentage of Average	WYTD Percentage of 1981-2010 Average*	WYTD Last Year Percentage of Average
Mountain Precipitation	111%	118%	102%
Valley Precipitation	72%	173%	133%
Basin-Wide Precipitation	110%	119%	103%

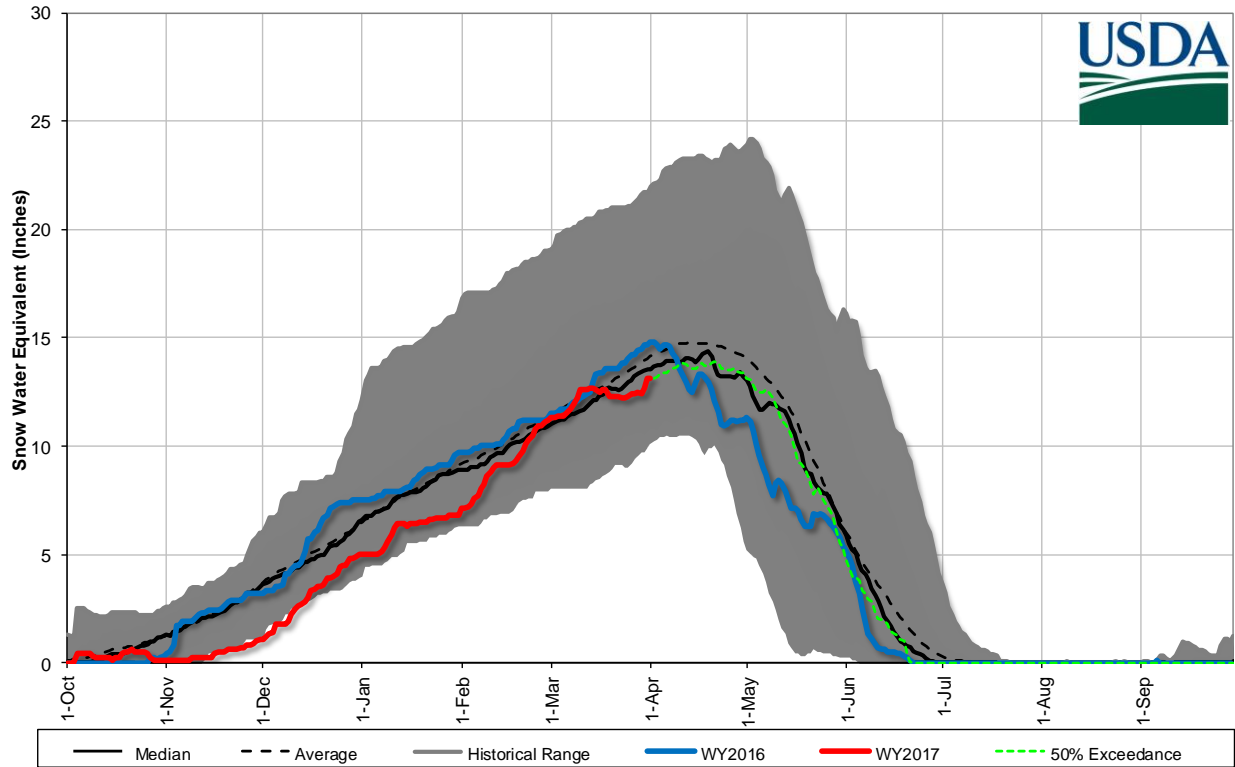
*Water Year-to-Date (WYTD) Precipitation is October 1st - Current

Reservoir Storage	Percentage of Average	Percentage of Capacity (Total)	Last Year Percentage of Average
Basin-Wide Storage	108%	57%	85%

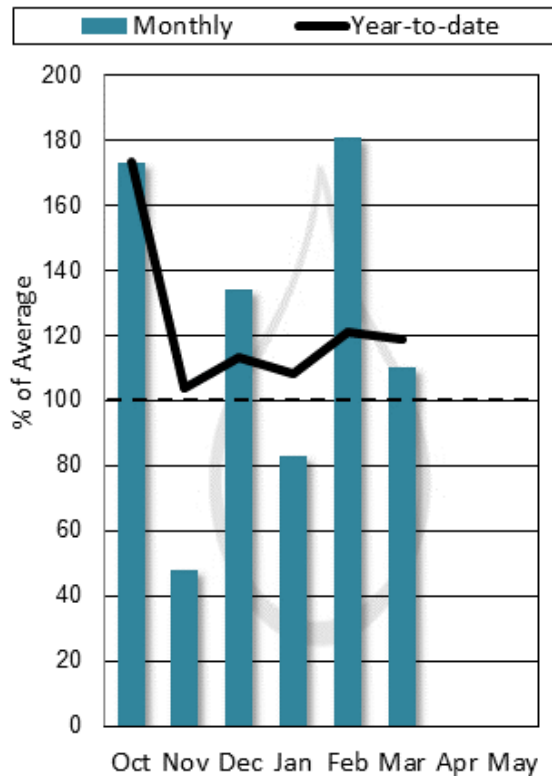
*See Reservoir Storage Table for storage in individual reservoirs

End of Month Storage	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)	% Average	% Capacity
Lima Reservoir	56.5	25.3	34.2	84.0	165%	67%
Clark Canyon Res	125.9	113.0	134.5	255.6	94%	49%
Ruby River Reservoir	34.2	32.9	31.5	38.8	108%	88%

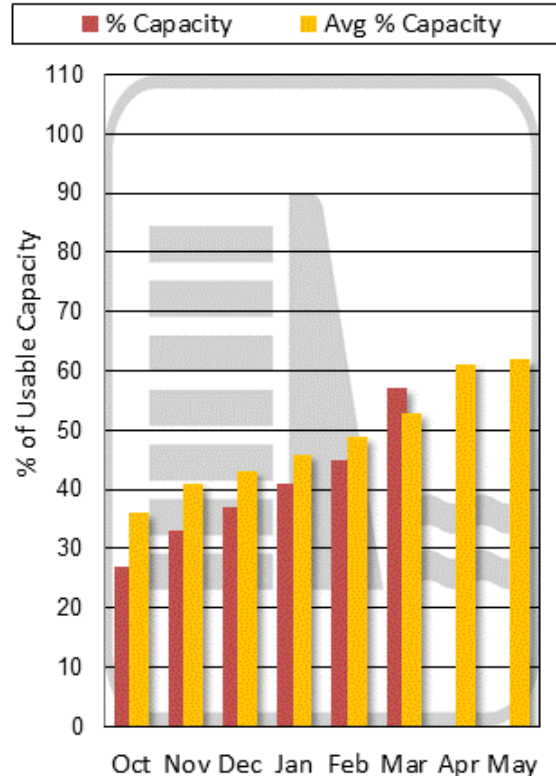
Jefferson River Basin Snowpack with Non-Exceedence Projections
Based on provisional SNOTEL daily data as of 4/1/2017



**Mountain and Valley
Precipitation**



**End of Month Reservoir
Storage**



Storage above is averaged for all reservoirs in the basin. For individual reservoirs see table below.

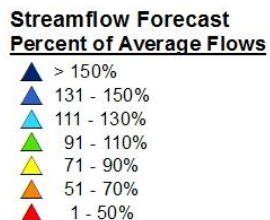
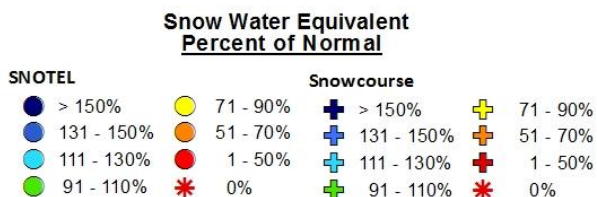
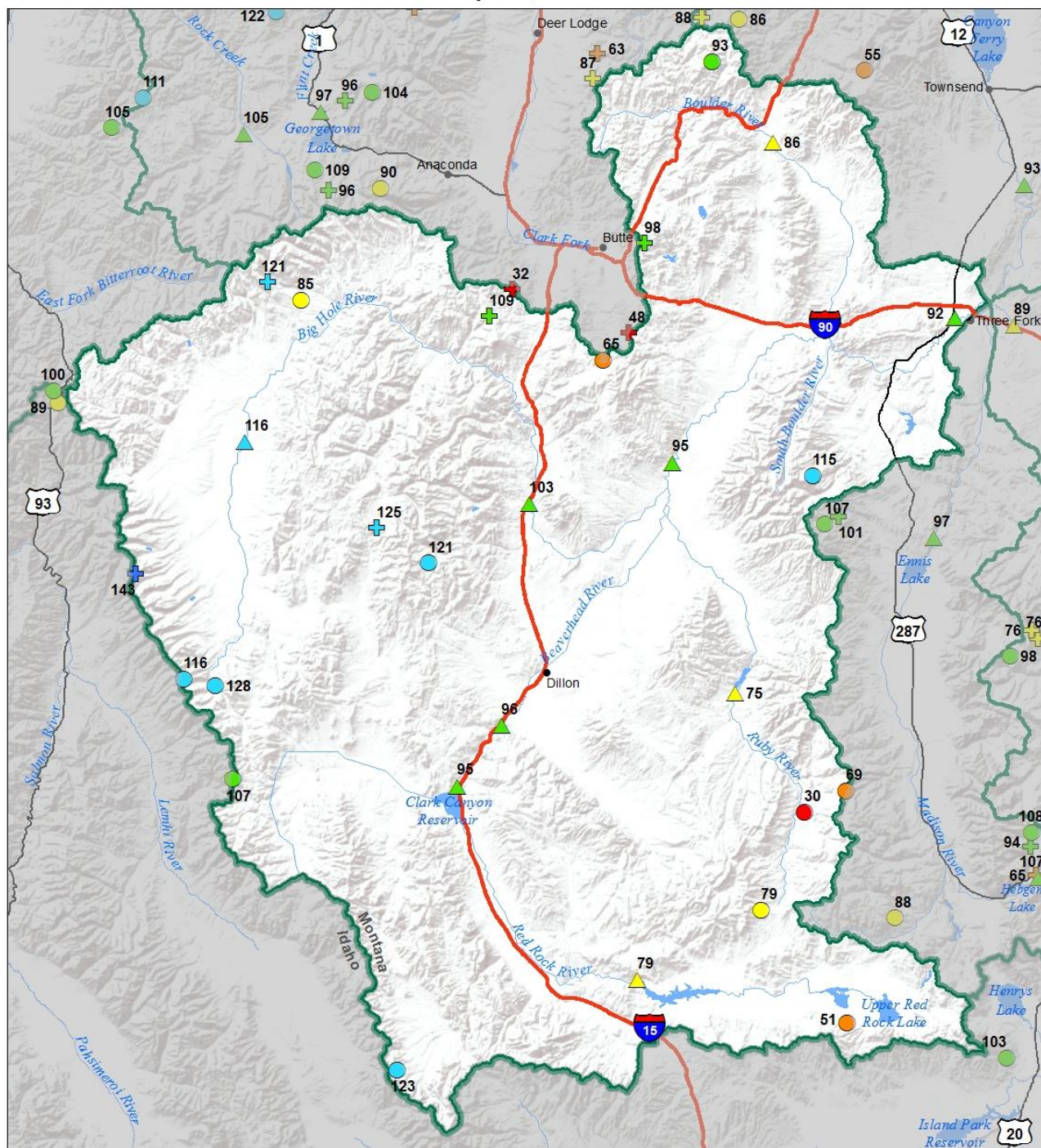
Jefferson River Basin

Forecast Point	Forecast Period	Chance Actual Volume Will Exceed Forecasted Volume						30yr Avg (KAF)
		90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	
Lima Reservoir Inflow ²	APR-JUL	33	48	59	79%	70	85	75
	APR-SEP	35	51	63	79%	75	91	80
Clark Canyon Inflow ²	APR-JUL	46	74	93	92%	112	140	101
	APR-SEP	59	92	114	95%	136	169	120
Beaverhead R at Barretts ²	APR-JUL	67	100	122	95%	144	177	129
	APR-SEP	87	124	149	96%	174	210	156
Ruby R Reservoir Inflow ²	APR-JUL	34	47	56	73%	65	78	77
	APR-SEP	43	58	68	75%	78	93	91
Big Hole R at Wisdom	APR-JUL	50	90	118	116%	145	185	102
	APR-SEP	52	95	125	116%	154	197	108
Big Hole R nr Melrose	APR-JUL	355	460	530	103%	600	705	515
	APR-SEP	385	500	575	103%	650	765	560
Jefferson R nr Twin Bridges ²	APR-JUL	320	510	640	93%	770	960	690
	APR-SEP	350	550	690	95%	830	1030	730
Boulder R nr Boulder	APR-JUL	31	48	60	87%	71	89	69
	APR-SEP	32	51	64	86%	77	96	74
Willow Ck Reservoir Inflow ²	APR-JUL	6.3	12.2	16.2	96%	20	26	16.8
Jefferson R nr Three Forks ²	APR-JUL	370	555	685	93%	815	1000	740
	APR-SEP	375	590	735	92%	880	1090	800

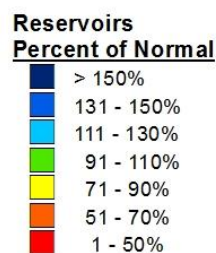
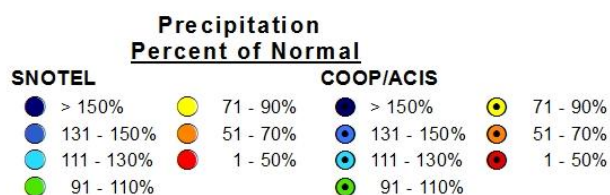
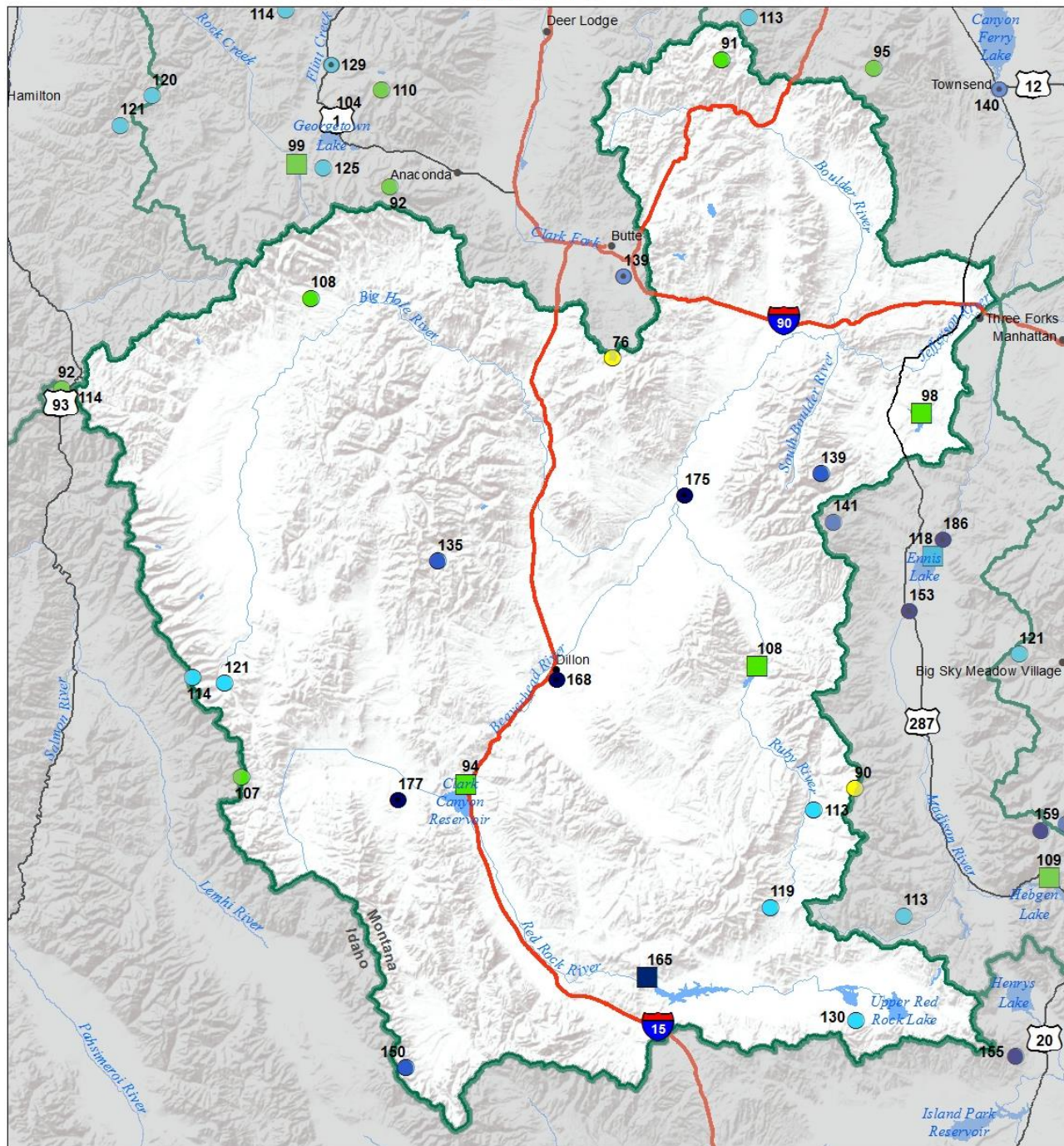
1) 90% and 10% exceedance probabilities are actually 95% and 5%

2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions

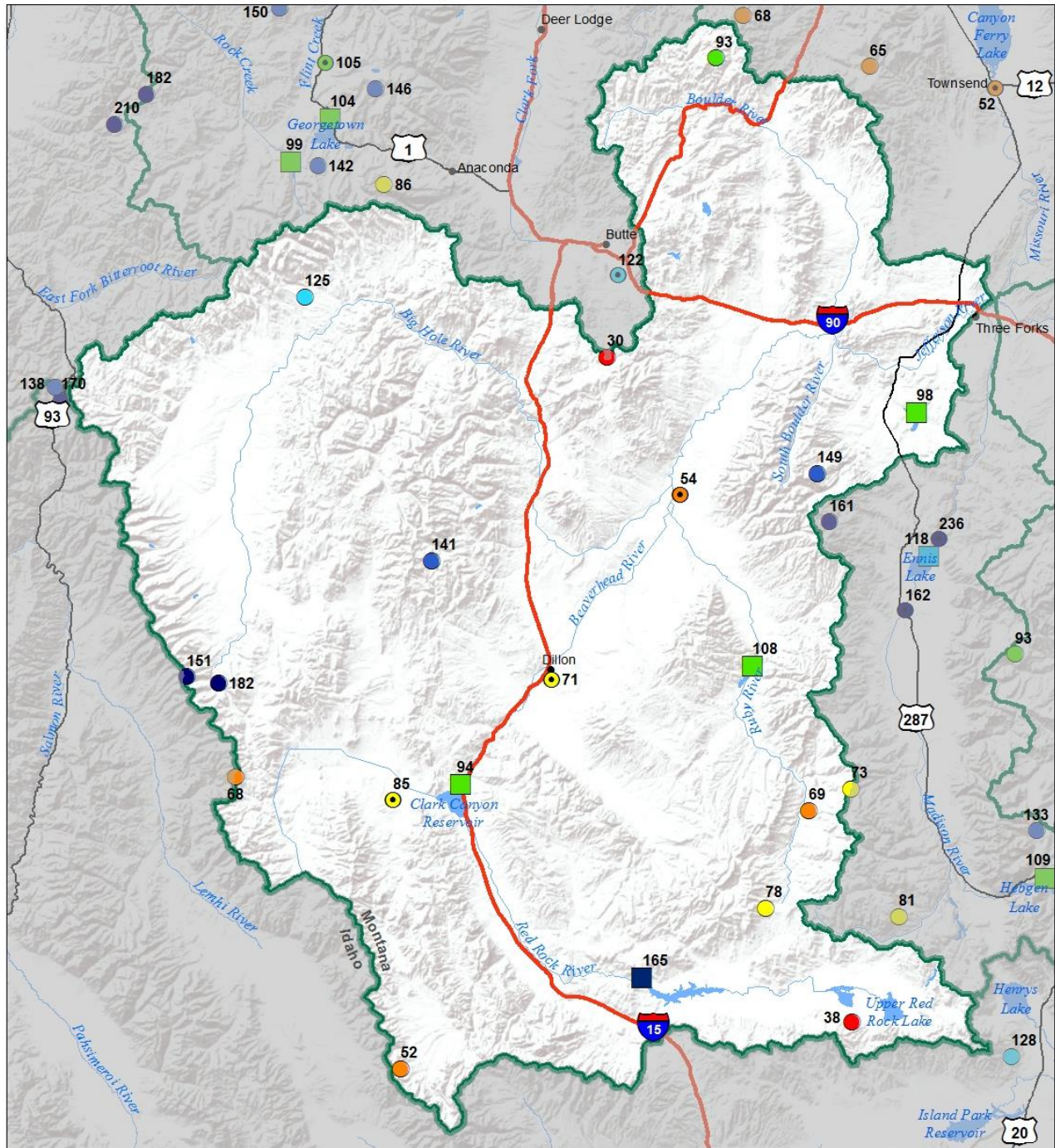
Jefferson River Basin Streamflow Forecast, Snow Water Equivalent Percentage of Normal April 1, 2017



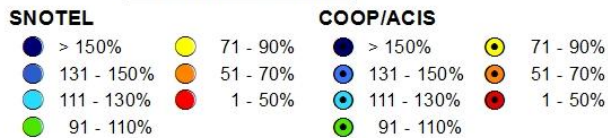
Jefferson River Basin Water Year to Date Precipitation and Reservoir Levels Percentage of Normal April 1, 2017



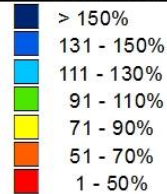
Jefferson River Basin
Monthly Precipitation and Reservoir Levels
Percentage of Normal
April 1, 2017 (March 1, 2017 - April 1, 2017)



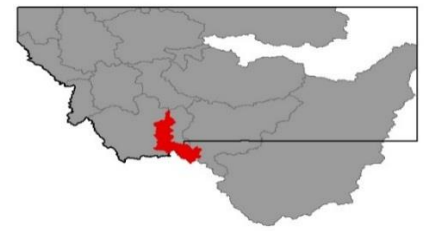
**Precipitation
Percent of Normal**



**Reservoirs
Percent of Normal**



Madison River Basin



The greater Madison River basin has had a snowpack that is above normal since February and early March storms dropped substantial snowfall in the mountains above Hebgen Lake. The southern half of the basin has been favored throughout the winter and has snowpack that is above normal for this time. Below Hebgen the snowpack is near normal in the Madison Range, and above normal in the Tobacco Root Range. The Gravelly Range snowpack is below normal for this date and has been through much of the year. The high elevation Clover Meadow SNOTEL site in the Gravelly's is reporting the second lowest snowpack totals on record for April 1st. The second half of March brought well above average temperatures and mostly dry conditions, which impacted the low elevation snowpack across the river basin. Melt below 7000' has dropped the snowpack totals for many low elevation SNOTEL sites and snowcourses, while mid and high elevations experienced little melt with a net gain during the month and remain near to above average. Streamflow forecasts issued April 1st indicate near to slightly above average conditions during the spring and early summer.

Madison River Basin Data Summary

Snowpack	Percent of 1981-2010 Normal (Median)	Last Year Percentage of Normal (Median)
MADISON abv HEBGEN LAKE	111%	92%
MADISON blw HEBGEN LAKE	99%	106%
Basin-Wide	104%	100%

Precipitation	Monthly Percentage of Average	WYTD Percentage of 1981-2010 Average*	WYTD Last Year Percentage of Average
Mountain Precipitation	122%	136%	100%
Valley Precipitation	176%	189%	108%
Basin-Wide Precipitation	127%	141%	101%

*Water Year-to-Date (WYTD) Precipitation is October 1st - Current

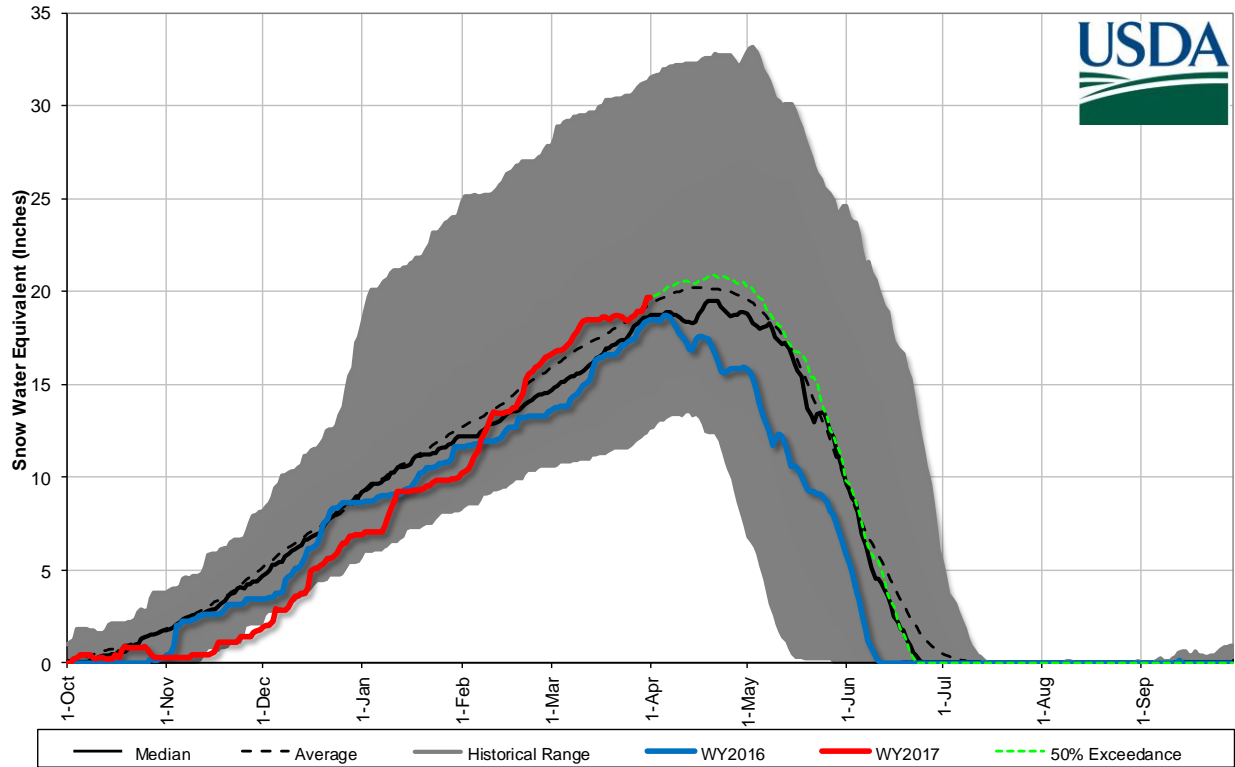
Reservoir Storage	Percentage of Average	Percentage of Capacity (Total)	Last Year Percentage of Average
Basin-Wide Storage	110%	78%	107%

*See Reservoir Storage Table for storage in individual reservoirs

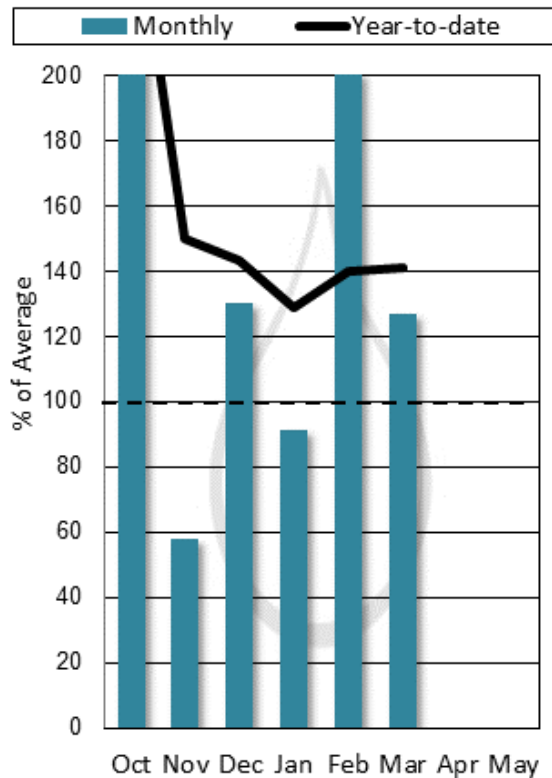
End of Month Storage	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)	% Average	% Capacity
Ennis Lake	34.7	30.7	29.5	41.0	118%	85%
Hebgen Lake	294.0	291.5	270.4	378.8	109%	78%

Madison River Basin Snowpack with Non-Exceedence Projections

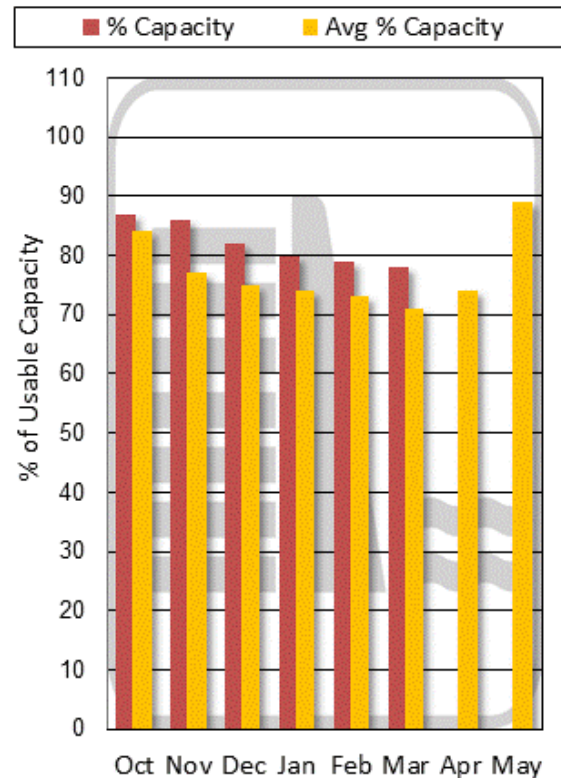
Based on provisional SNOTEL daily data as of 4/1/2017



Mountain and Valley Precipitation



End of Month Reservoir Storage



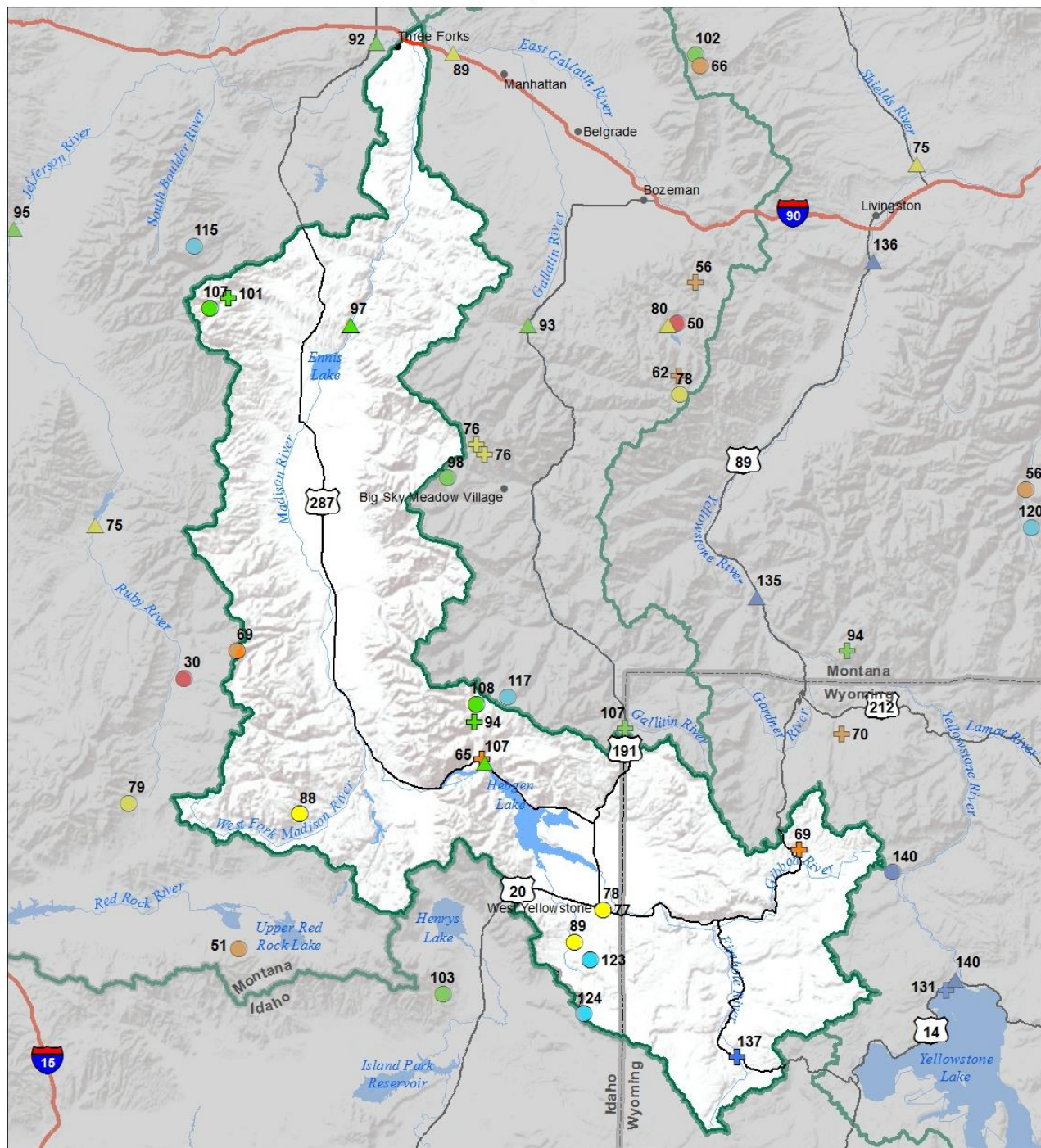
Storage above is averaged for all reservoirs in the basin. For individual reservoirs see table below.

Madison River Basin

Forecast Point	Forecast Period	Chance Actual Volume Will Exceed Forecasted Volume						30yr Avg (KAF)
		90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	
Hebgen Reservoir Inflow ²	APR-JUL	330	370	400	108%	430	470	370
	APR-SEP	420	470	505	107%	540	590	470
Ennis Reservoir Inflow ²	APR-JUL	475	550	605	97%	660	735	625
	APR-SEP	595	685	750	97%	815	905	775

1) 90% and 10% exceedance probabilities are actually 95% and 5%

Madison River Basin Streamflow Forecast, Snow Water Equivalent Percentage of Normal April 1, 2017



Snow Water Equivalent Percent of Normal

SNOTEL

- > 150%
- 131 - 150%
- 111 - 130%
- 91 - 110%

- 71 - 90%
- 51 - 70%
- 1 - 50%
- 0%

Snowcourse

- > 150%
- 131 - 150%
- 111 - 130%
- 91 - 110%

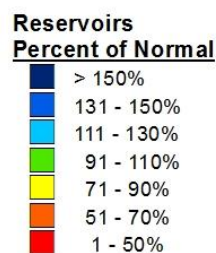
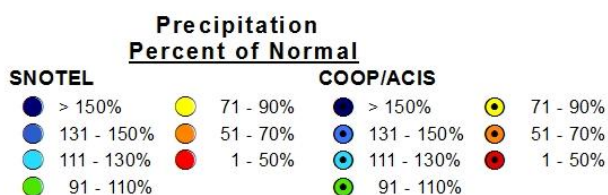
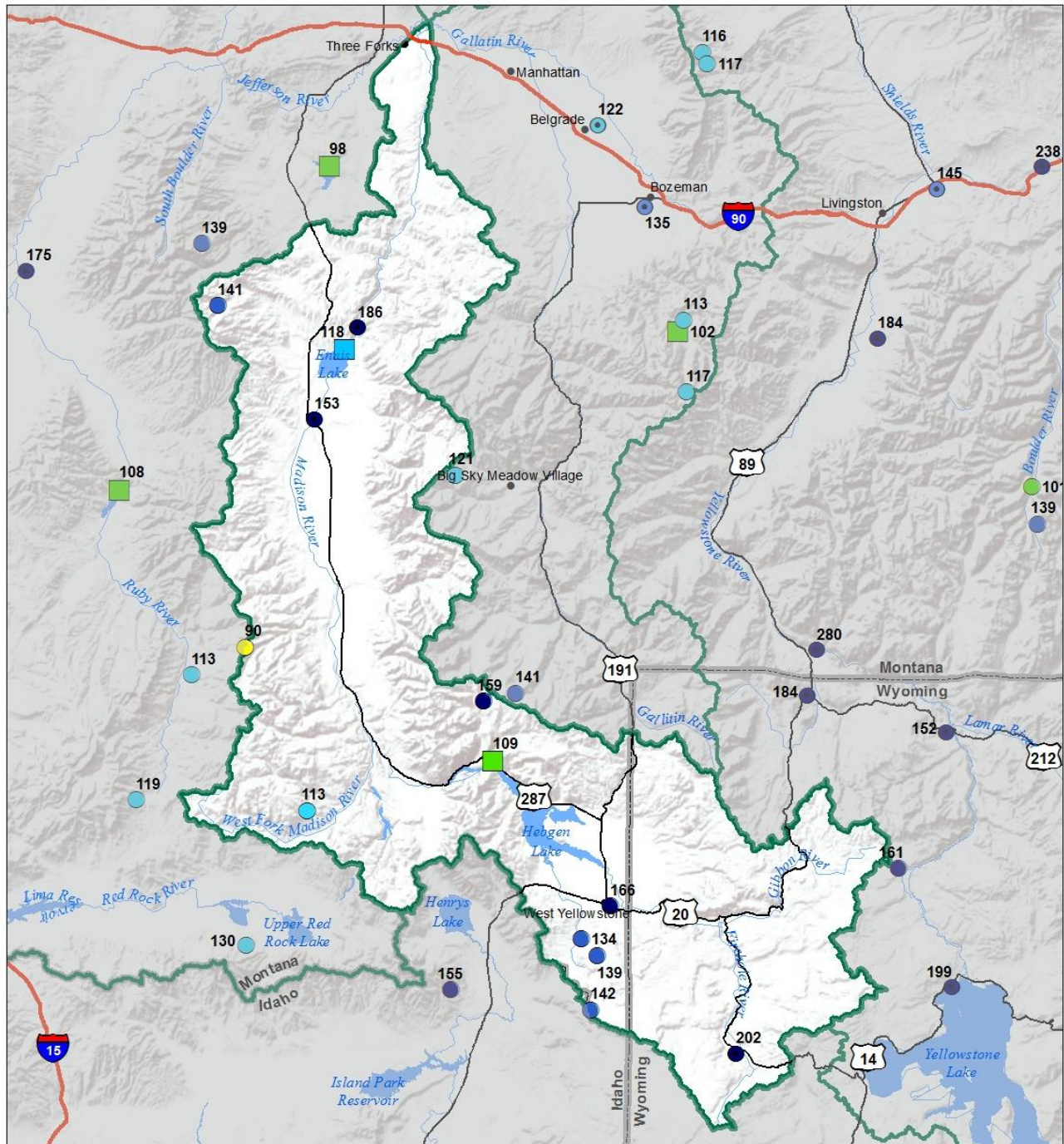
- 71 - 90%
- 51 - 70%
- 1 - 50%
- 0%

Streamflow Forecast Percent of Average Flows

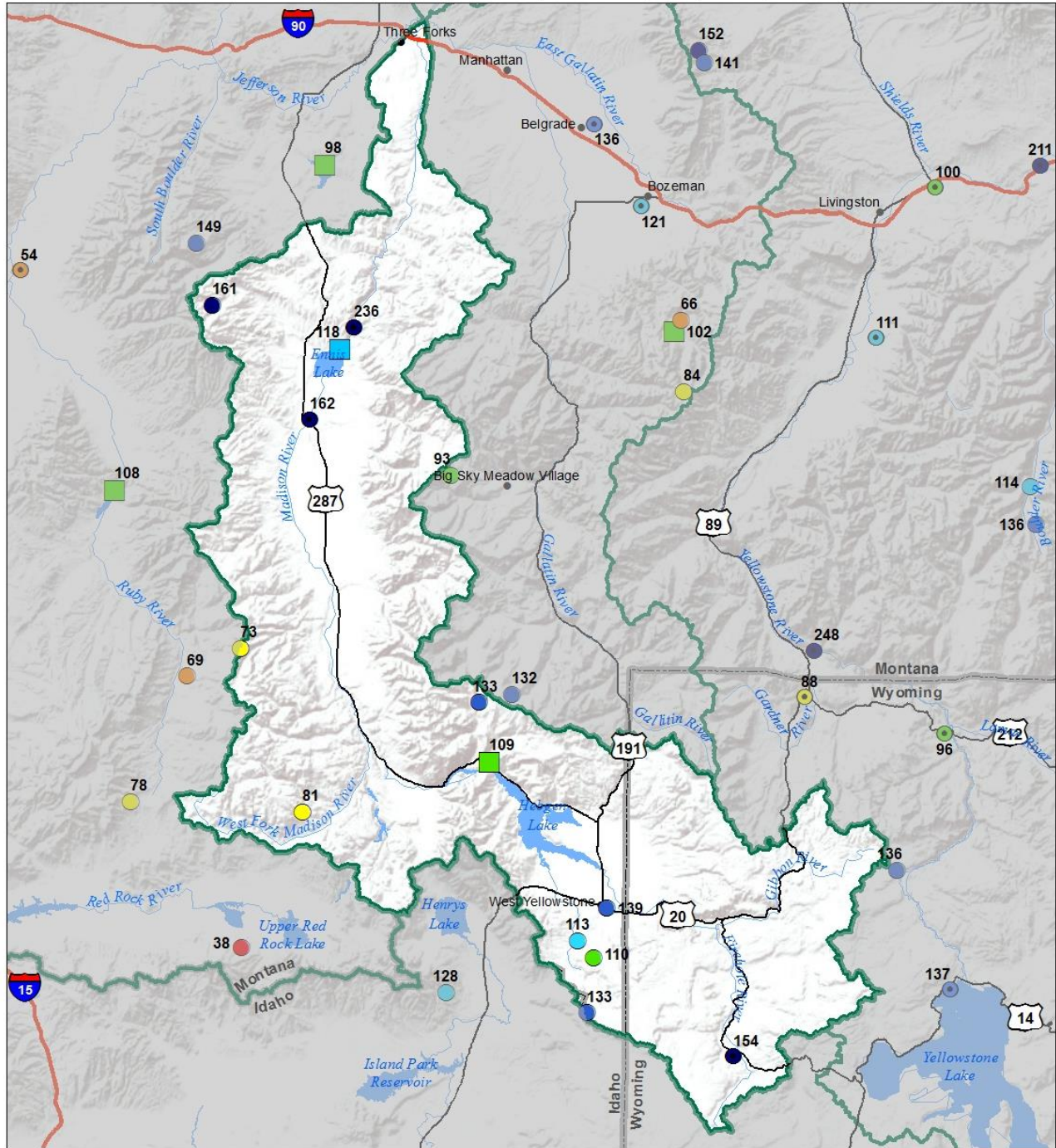
- > 150%
- 131 - 150%
- 111 - 130%
- 91 - 110%
- 71 - 90%
- 51 - 70%
- 1 - 50%



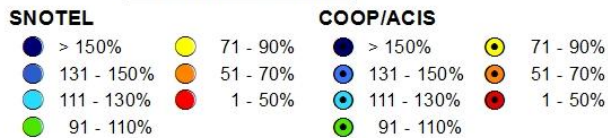
Madison River Basin Water Year to Date Precipitation and Reservoir Levels Percentage of Normal April 1, 2017



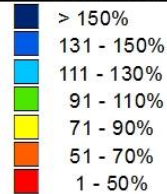
Madison River Basin
Monthly Precipitation and Reservoir Levels
Percentage of Normal
April 1, 2017 (March 1, 2017 - April 1, 2017)



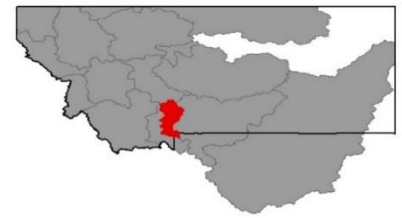
Precipitation
Percent of Normal



Reservoirs
Percent of Normal



Gallatin River Basin



Split flow favoring the southern mountains occurred again this month, leaving widely varied snowpack totals in the Gallatin River basin. The high elevation Upper Gallatin River basin above Gateway received consistent snowfall through the month of March and remains near normal on April 1, while the northern Bridger and Hyalite basins were left “high and dry” after the middle of the month. The transition to high pressure with sunny days and above average temperatures in the northern half of the Gallatin River basin resulted in the clearing of the valley snowpack and started the spring melt at low elevation snowpack measurement locations.

Throughout this winter the Hyalite/Gallatin Ranges have been overlooked by coming storms, and this month was no different. Monthly precipitation in Hyalite was only 65% to 85% for the month of March. April 1st measurements indicate that the snowpack in Hyalite is the lowest, or second lowest on record at snowcourses and SNOTEL sites, and is currently 64% of normal for April 1. Streamflow forecasts issues on April 1st indicate slightly below average flows for the Gallatin at Gateway and below average flows for the inflow to Hyalite Reservoir. April and May are typically the “wettest” months for the Gallatin with snowpack typically peaking at higher elevations late in the month of April or early May. This leaves some room for improvement, but a major change in weather patterns will be needed for this to occur.

Gallatin River Basin Data Summary

Snowpack

	Percent of 1981-2010 Normal (Median)	Last Year Percentage of Normal (Median)
UPPER GALLATIN	97%	101%
HYALITE	64%	90%
BRIDGER	86%	103%
Basin-Wide	87%	99%

Precipitation

	Monthly Percentage of Average	WYTD Percentage of 1981- 2010 Average*	WYTD Last Year Percentage of Average
Mountain Precipitation	116%	127%	108%
Valley Precipitation	127%	130%	120%
Basin-Wide Precipitation	117%	127%	109%

*Water Year-to-Date (WYTD) Precipitation is October 1st - Current

Reservoir Storage

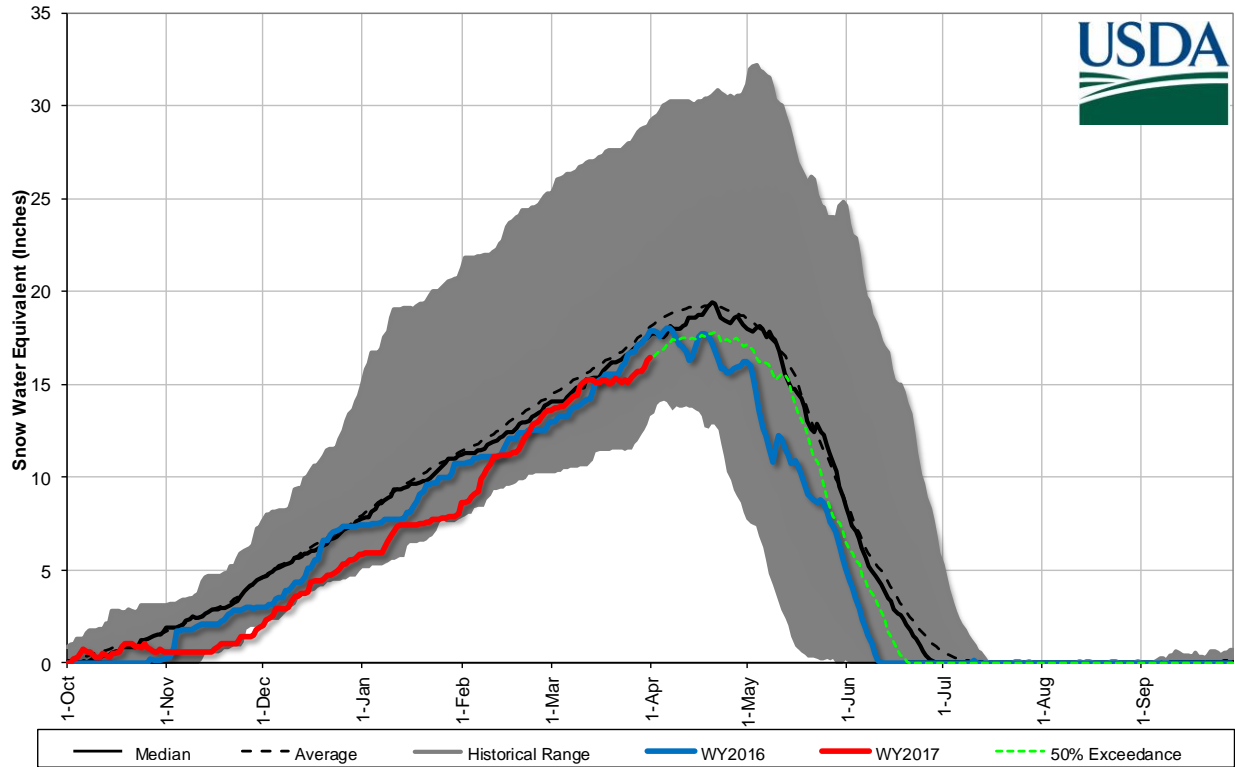
	Percentage of Average	Percentage of Capacity (Total)	Last Year Percentage of Average
Basin-Wide Storage	102%	56%	99%

*See Reservoir Storage Table for storage in individual reservoirs

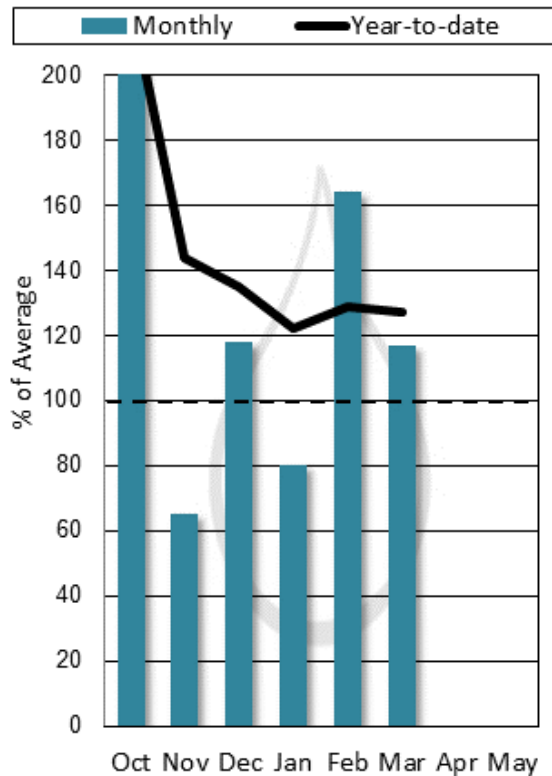
End of Month Storage

	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)	% Average	% Capacity
Middle Creek Res	5.7	5.6	5.6	10.2	102%	56%

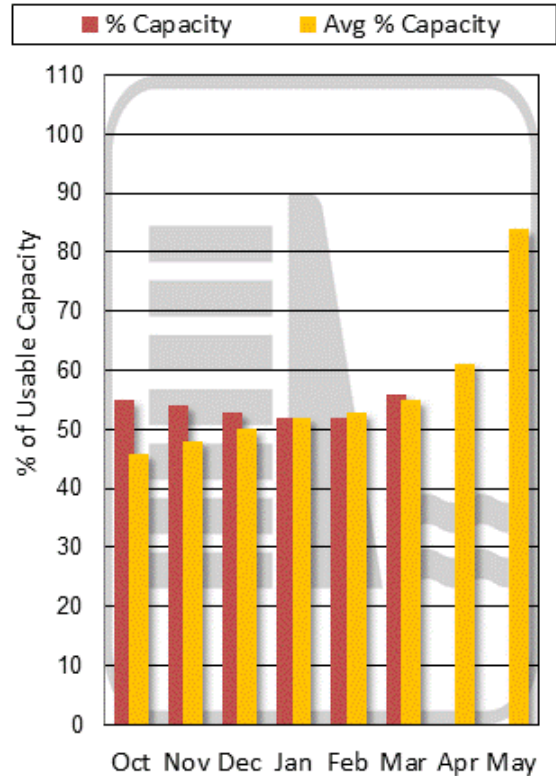
Gallatin River Basin Snowpack with Non-Exceedence Projections
Based on provisional SNOTEL daily data as of 4/1/2017



**Mountain and Valley
Precipitation**



**End of Month Reservoir
Storage**



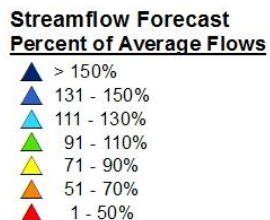
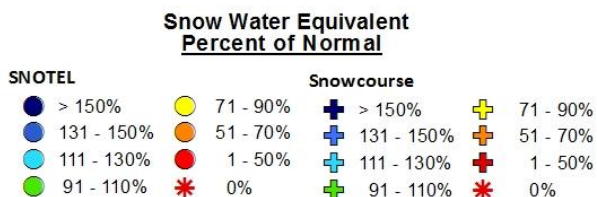
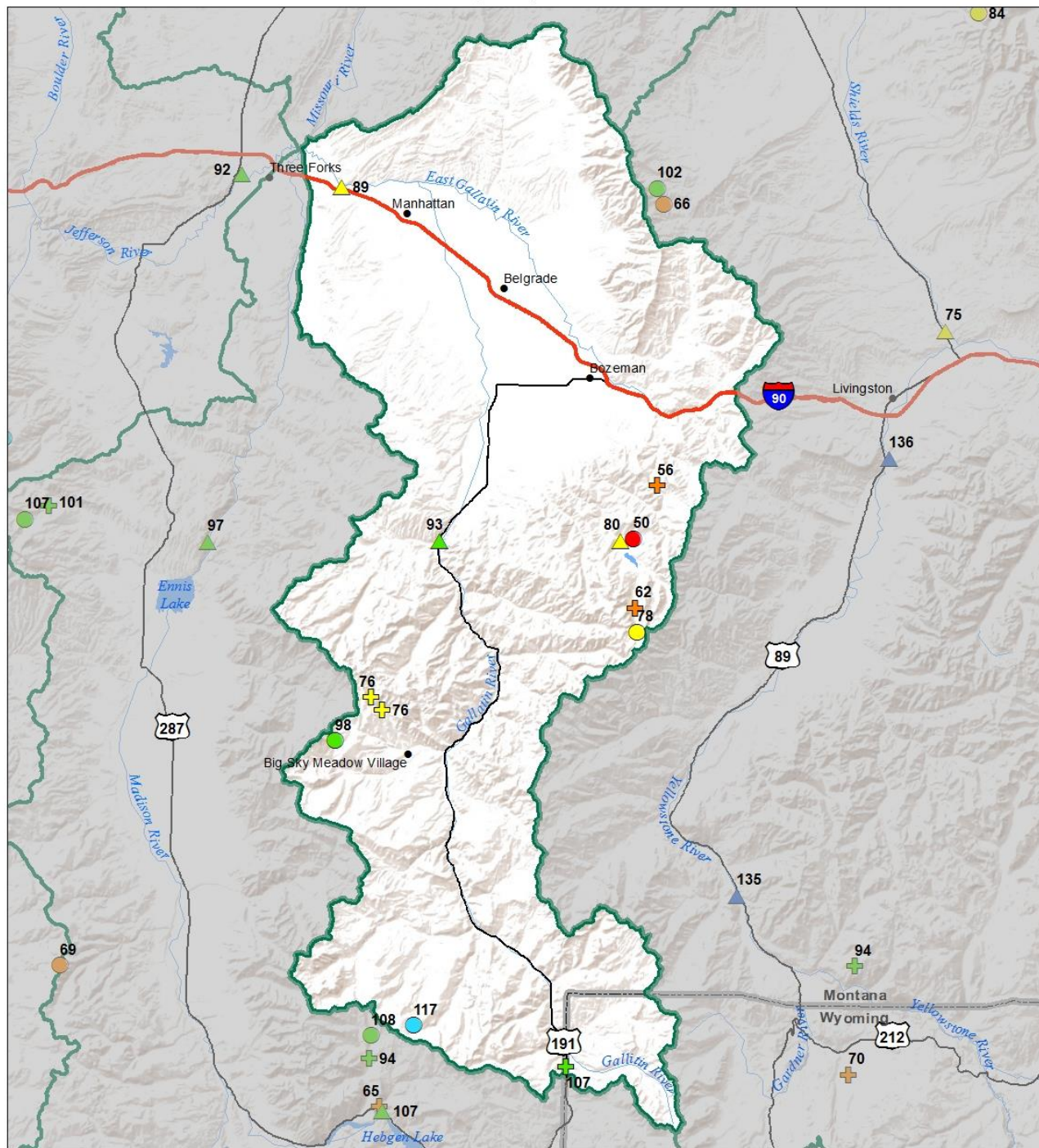
Storage above is averaged for all reservoirs in the basin. For individual reservoirs see table below.

Gallatin River Basin

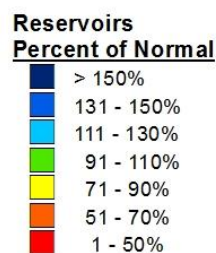
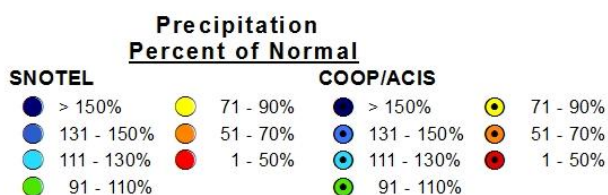
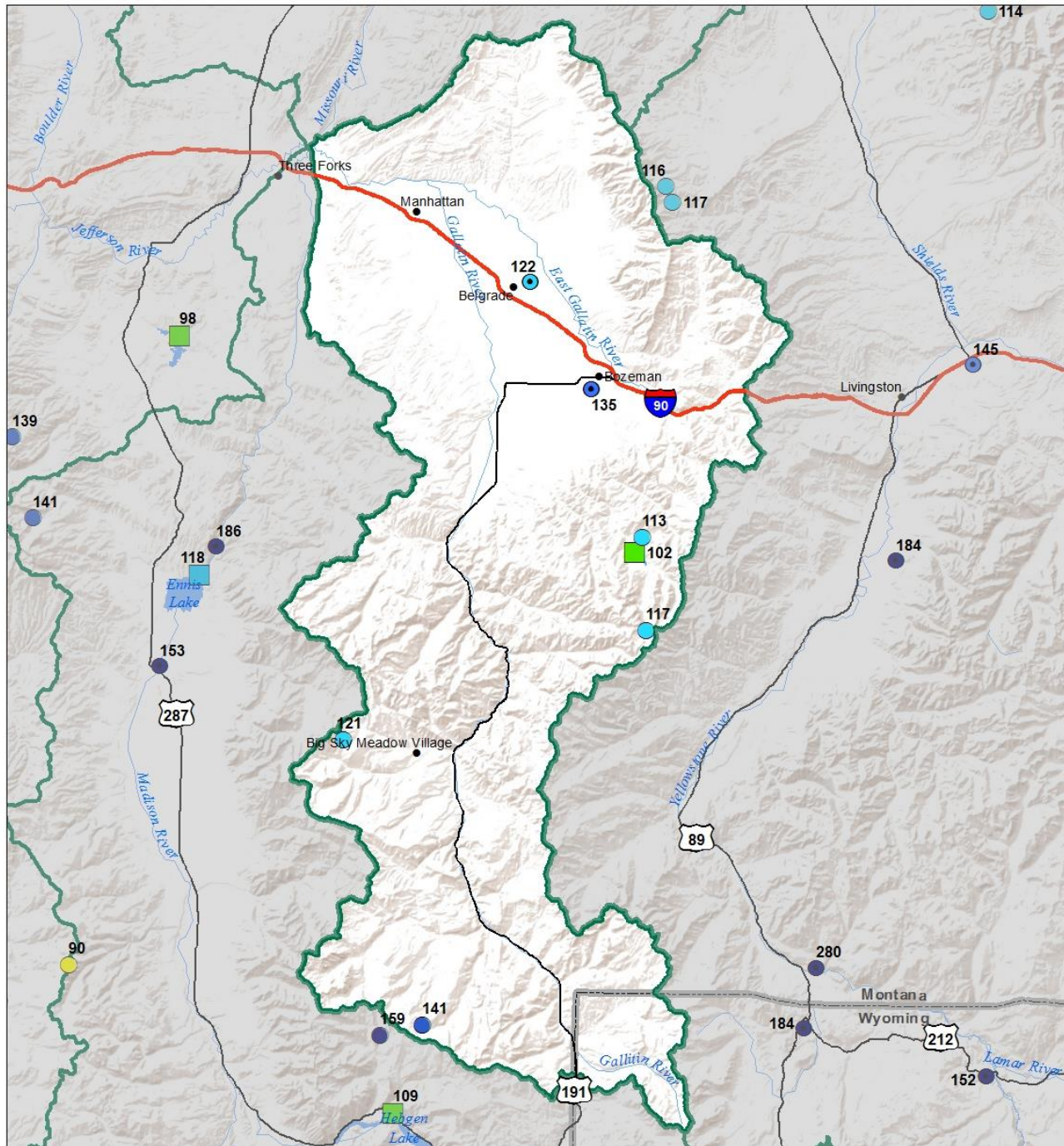
		Chance Actual Volume Will Exceed Forecasted Volume						
GALLATIN RIVER BASIN	Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Gallatin R nr Gateway	APR-JUL	285	335	370	93%	405	455	400
	APR-SEP	340	395	435	93%	475	530	470
Hyalite Reservoir Inflow ²	APR-JUL	12.9	14.9	16.3	82%	17.7	19.7	20
	APR-SEP	15	17.1	18.5	80%	19.9	22	23
Gallatin R at Logan	APR-JUL	235	325	390	89%	450	545	440
	APR-SEP	275	380	450	89%	525	630	505

1) 90% and 10% exceedance probabilities are actually 95% and 5%

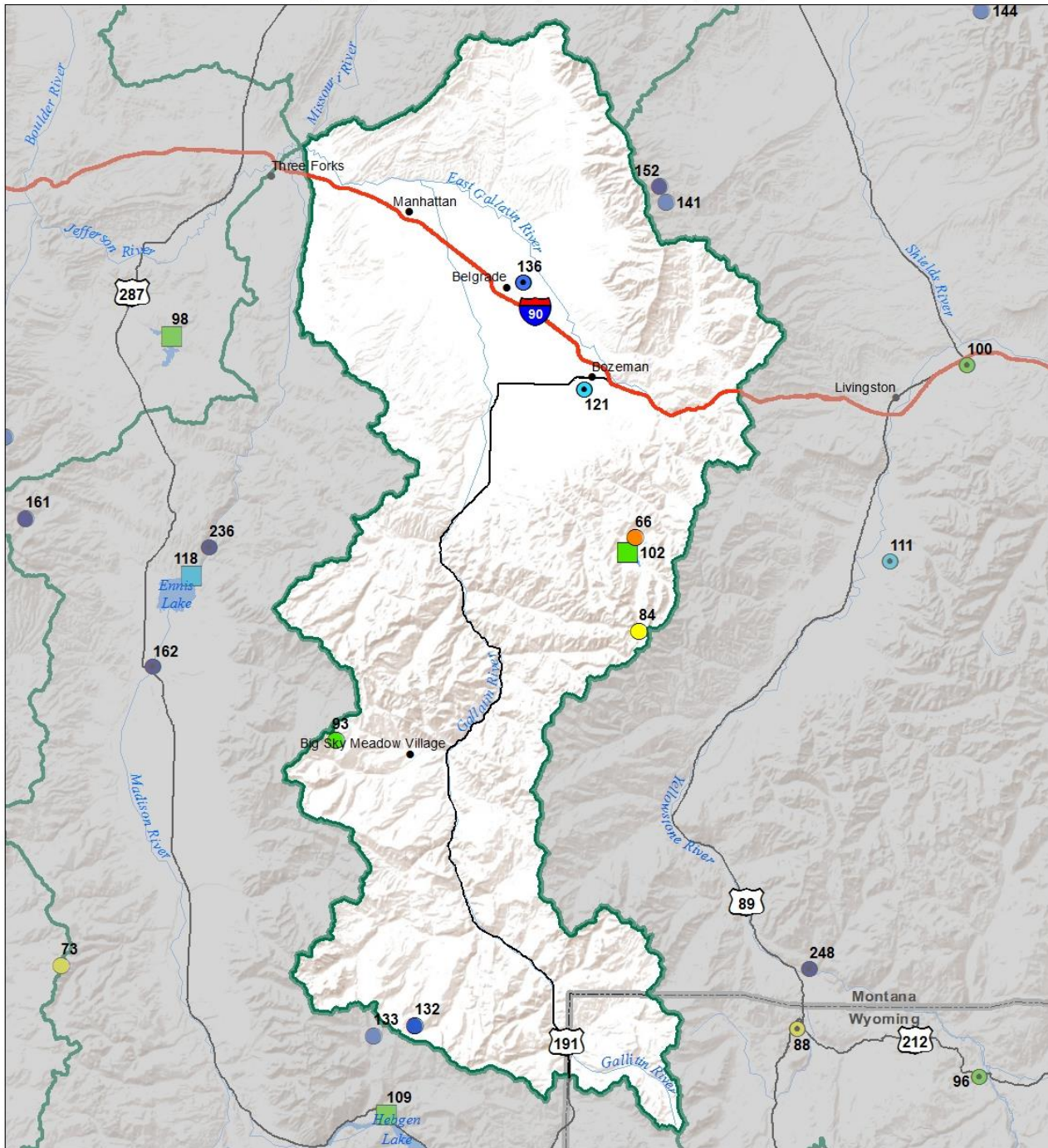
Gallatin River Basin Streamflow Forecast, Snow Water Equivalent Percentage of Normal April 1, 2017



Gallatin River Basin Water Year to Date Precipitation and Reservoir Levels Percentage of Normal April 1, 2017



**Gallatin River Basin
Monthly Precipitation and Reservoir Levels
Percentage of Normal
April 1, 2017 (March 1, 2017 - April 1, 2017)**



Precipitation
Percent of Normal








SNOTEL

- > 150%
- 131 - 150%
- 111 - 130%
- 91 - 110%

COOP/ACIS

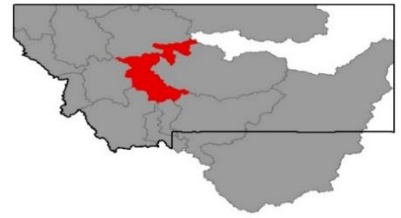
 > 150%  71 - 90%
 131 - 150%  51 - 70%
 111 - 130%  1 - 50%
 91 - 110%

Reservoirs
Percent of Normal

	> 150%
	131 - 150%
	111 - 130%
	91 - 110%
	71 - 90%
	51 - 70%
	1 - 50%



Montana State Library
Natural Resource
Information System



Headwaters Mainstem (Missouri) River Basin

Precipitation was near average during March in the Headwaters Mainstem River basin. Most of the precipitation came during the first couple weeks of the month and the northern portion of the basin was favored. Nevada ridge SNOTEL (7020 ft) received over a foot of snow during this time, while to the south Rocker Peak SNOTEL (8000 ft) only received about half of that. As of April 1st Tizer Basin SNOTEL (6880 ft) currently has its lowest snowpack in 29 years of record. Overall, water year-to-date precipitation in the Headwaters Mainstem River basin is above average.

Headwaters Missouri Mainstem River Basin Data Summary

Snowpack	Percent of 1981-2010 Normal (Median)	Last Year Percentage of Normal (Median)
HEADWATERS MAINSTEM	92%	103%
SMITH-JUDITH-MUSSELSHELL	70%	106%
SUN-TETON-MARIAS	116%	65%
MAINSTEM ab FT PECK RES	89%	88%
MILK RIVER BASIN	0%	2%
Basin-Wide	89%	88%

Precipitation	Monthly Percentage of Average	WYTD Percentage of 1981-2010 Average*	WYTD Last Year Percentage of Average
Mountain Precipitation	99%	111%	100%
Valley Precipitation	63%	155%	89%
Basin-Wide Precipitation	96%	114%	100%

*Water Year-to-Date (WYTD) Precipitation is October 1st - Current

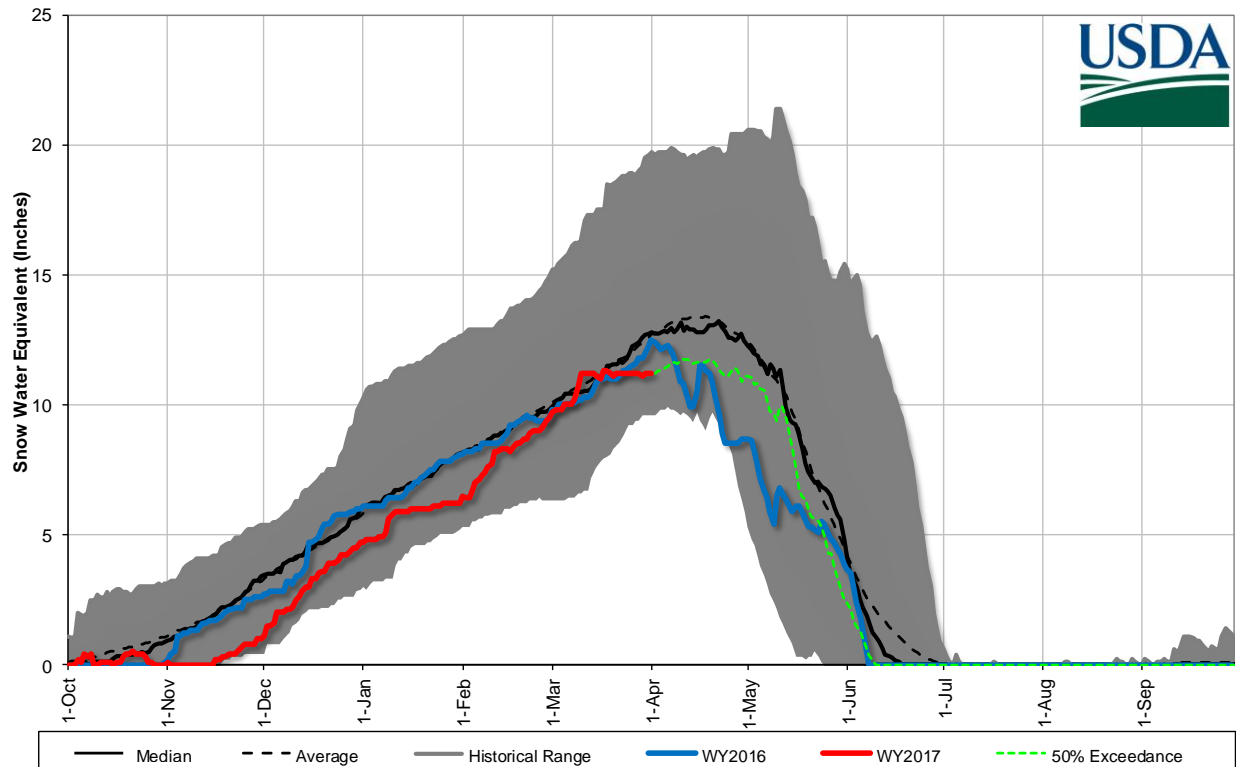
Reservoir Storage	Percentage of Average	Percentage of Capacity (Total)	Last Year Percentage of Average
Basin-Wide Storage	117%	81%	113%

*See Reservoir Storage Table for storage in individual reservoirs

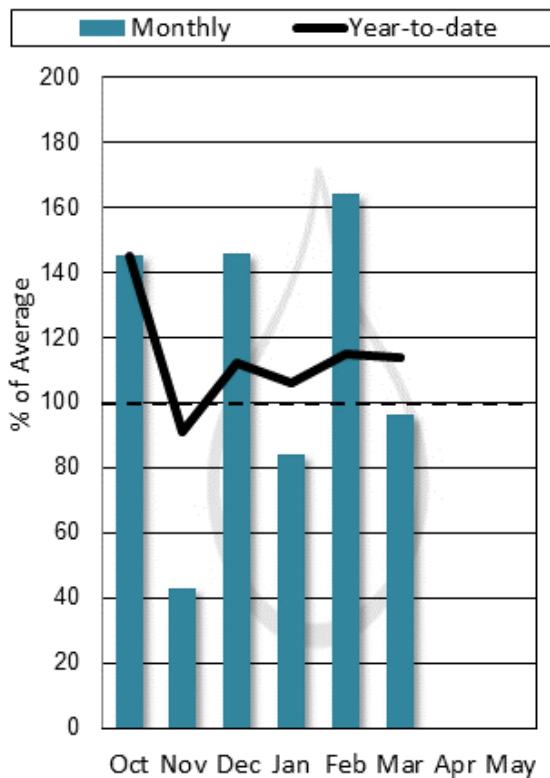
End of Month Storage	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)	% Average	% Capacity
Canyon Ferry Lake	1560.4	1471.9	1457.0	2043.0	107%	76%
Helena Valley Reservoir	6.0	5.3	4.6	9.2	131%	66%
Lake Helena	10.8	10.7	10.9	12.7	99%	85%
Hauser Lake & Lake Helena	73.6	73.1	73.5	74.6	100%	99%
Holter Lake	81.1	81.0	77.9	81.9	104%	99%
Fort Peck Lake	15462.9	14976.7	13029.0	18910.0	119%	82%

Missouri River Basin below Toston above Smith River Inflow Snowpack with Non-Exceedence Projections

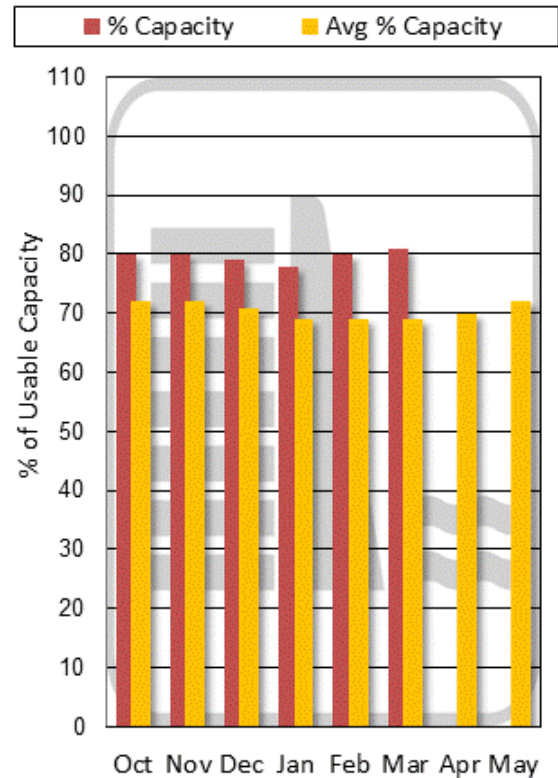
Based on provisional SNOTEL daily data as of 4/1/2017



Mountain and Valley Precipitation



End of Month Reservoir Storage



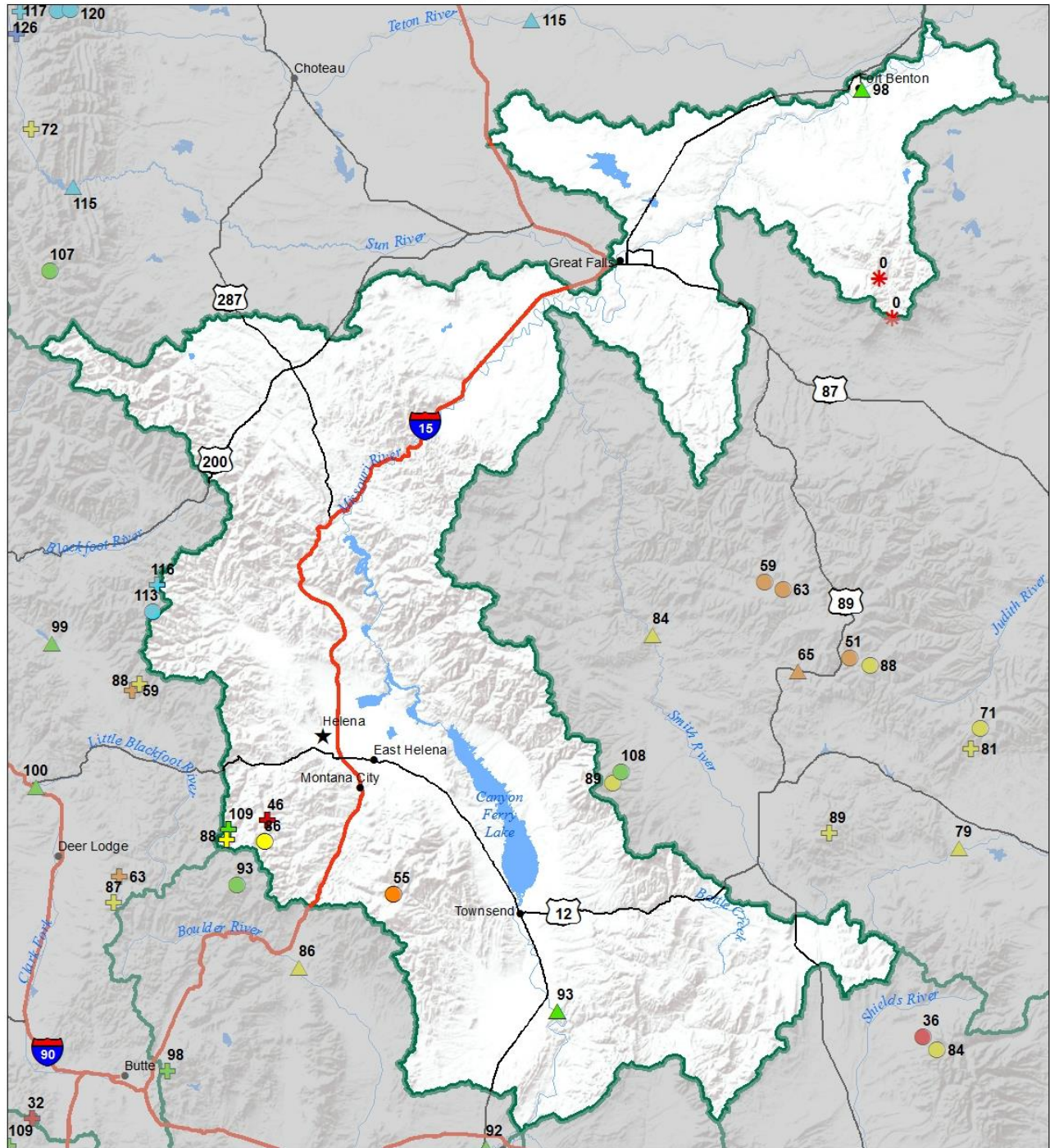
Storage above is averaged for all reservoirs in the basin. For individual reservoirs see table below.

Missouri Mainstem Basin

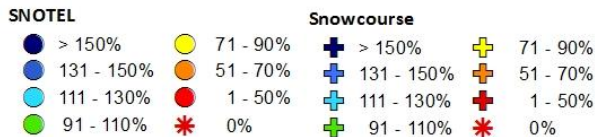
Forecast Point	Forecast Period	Chance Actual Volume Will Exceed Forecasted Volume						30yr Avg (KAF)
		90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	
Missouri R at Toston ²	APR-JUL	1120	1440	1660	93%	1880	2200	1790
	APR-SEP	1270	1660	1920	93%	2180	2560	2070
Dearborn R nr Craig								
Missouri R at Fort Benton ²	APR-JUL	1640	2180	2550	98%	2920	3470	2610
	APR-SEP	1950	2600	3040	98%	3480	4130	3110
Missouri R nr Virgelle ²	APR-JUL	1980	2580	2980	99%	3390	3980	3000
	APR-SEP	2290	3000	3490	99%	3970	4690	3520
Missouri R nr Landusky ²	APR-JUL	2090	2740	3180	101%	3610	4260	3160
	APR-SEP	2440	3200	3730	100%	4250	5020	3720
Missouri R bl Fort Peck Dam ²	APR-JUL	1970	2670	3140	97%	3610	4310	3240
	APR-SEP	2050	2940	3550	96%	4160	5050	3700
Lake Sakakawea Inflow ²								

1) 90% and 10% exceedance probabilities are actually 95% and 5%

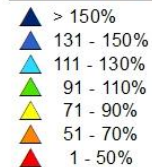
Headwaters Mainstem (Missouri) River Basin Streamflow Forecast, Snow Water Equivalent Percentage of Normal April 1, 2017



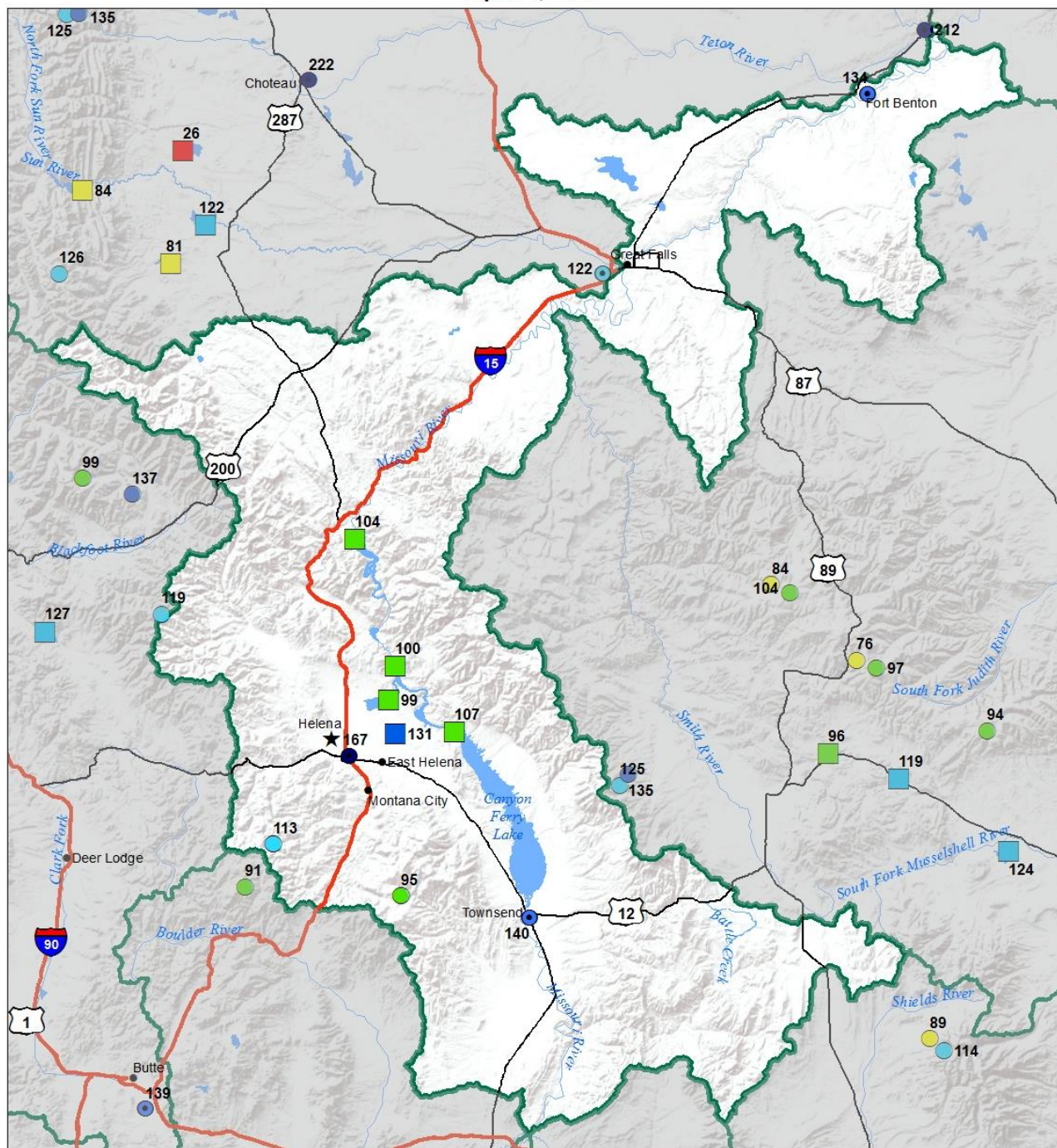
Snow Water Equivalent Percent of Normal



Streamflow Forecast Percent of Average Flows



Headwaters Mainstem (Missouri) River Basin Water Year to Date Precipitation and Reservoir Levels Percentage of Normal April 1, 2017



Precipitation Percent of Normal

SNOTEL

- > 150%
- 131 - 150%
- 111 - 130%
- 91 - 110%

- 71 - 90%
- 51 - 70%
- 1 - 50%

COOP/ACIS

- > 150%
- 131 - 150%
- 111 - 130%
- 91 - 110%

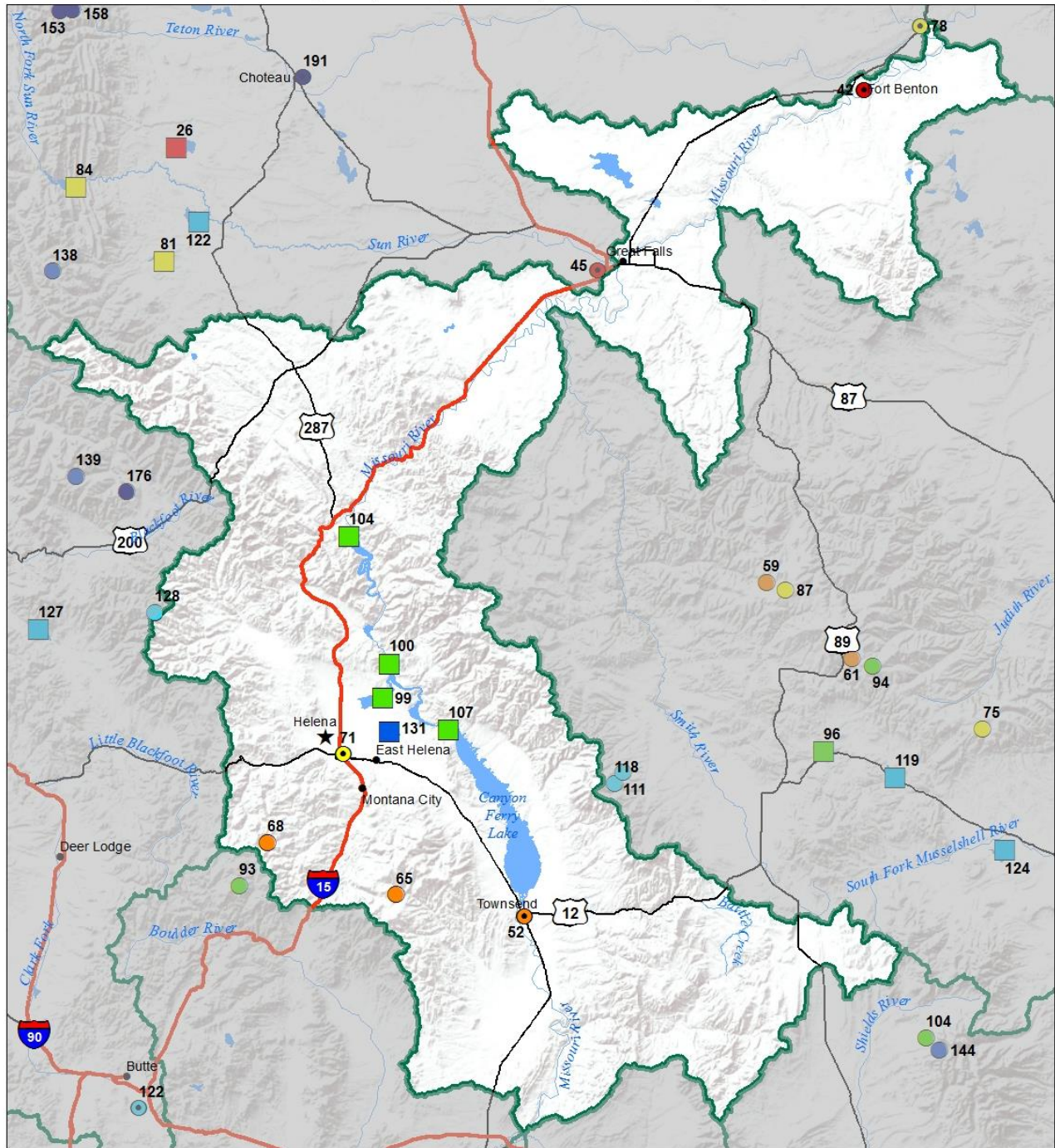
- 71 - 90%
- 51 - 70%
- 1 - 50%

Reservoirs Percent of Normal

- > 150%
- 131 - 150%
- 111 - 130%
- 91 - 110%
- 71 - 90%
- 51 - 70%
- 1 - 50%



Headwaters Mainstem (Missouri) River Basin Monthly Precipitation and Reservoir Levels Percentage of Normal April 1, 2017 (March 1, 2017 - April 1, 2017)



Precipitation Percent of Normal

SNOTEL

- > 150%
- 131 - 150%
- 111 - 130%
- 91 - 110%

COOP/ACIS

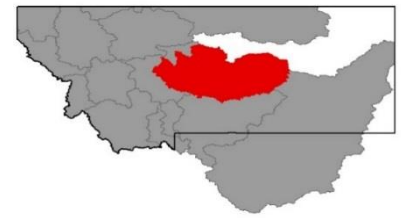
- > 150%
- 131 - 150%
- 111 - 130%
- 91 - 110%

Reservoirs Percent of Normal

- > 150%
- 131 - 150%
- 111 - 130%
- 91 - 110%
- 71 - 90%
- 51 - 70%
- 1 - 50%



Smith-Judith-Musselshell River Basin



Precipitation was below average during March in the Smith-Judith-Musselshell River basin. Upper elevations in the basin did receive much needed snow during the second week of the month. It snowed over a foot at Spur Park SNOTEL (8100 ft) during this storm. However, the basin is still in need of more snow. As of April 1st 6 of the 11 snow measurement locations in the basin have the lowest snowpack on record. Both Highwood Divide and Highwood Station Snow Courses melted out prior to the April 1st surveys this year. Several of the snow course surveys in the upper Musselshell were not able to be completed due to difficult access from lack of snow. On a positive note, the Big Belts have a near normal snowpack and April, May, and June are typically the wettest months in the Smith-Judith-Musselshell River basin.

Smith Judith Musselshell River Basin Data Summary

Snowpack	Percent of 1981-2010 Normal (Median)	Last Year Percentage of Normal (Median)
SMITH	80%	110%
HIGHWOOD	0%	32%
JUDITH	61%	111%
MUSSELSHELL	73%	90%
Basin-Wide	70%	106%

Precipitation	Monthly Percentage of Average	WYTD Percentage of 1981-2010 Average*	WYTD Last Year Percentage of Average
Mountain Precipitation	85%	103%	104%
Valley Precipitation	121%	160%	137%
Basin-Wide Precipitation	89%	108%	107%

*Water Year-to-Date (WYTD) Precipitation is October 1st - Current

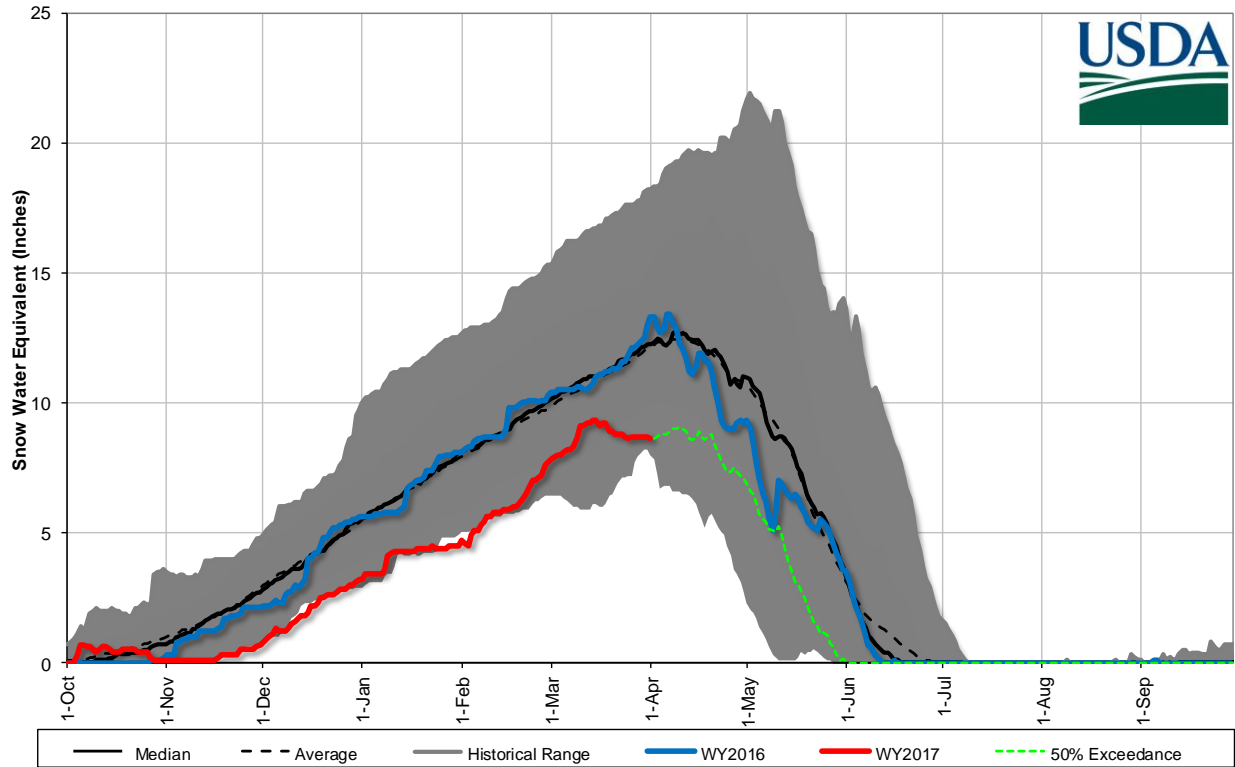
Reservoir Storage	Percentage of Average	Percentage of Capacity (Total)	Last Year Percentage of Average
Basin-Wide Storage	118%	69%	138%

*See Reservoir Storage Table for storage in individual reservoirs

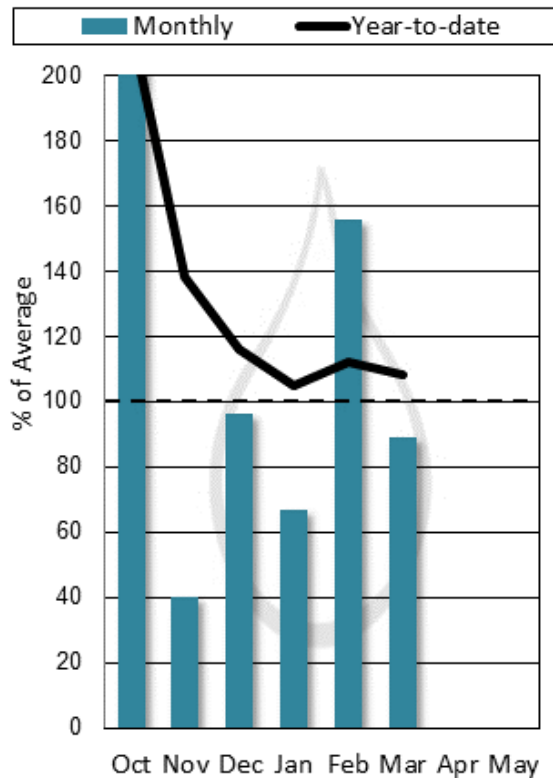
End of Month Storage	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)	% Average	% Capacity
Smith River Res	6.4	6.8	6.7	10.6	96%	61%
Ackley Lake	3.6	4.2	2.8	7.0	130%	52%
Bair Res	4.4	5.7	3.7	7.0	119%	63%
Martinsdale Res	10.9	15.6	8.8	23.1	124%	47%
Deadman's Basin Res	56.8	63.4	47.5	72.2	120%	79%

Smith-Judith-Musselshell River Basin Snowpack with Non-Exceedence Projections

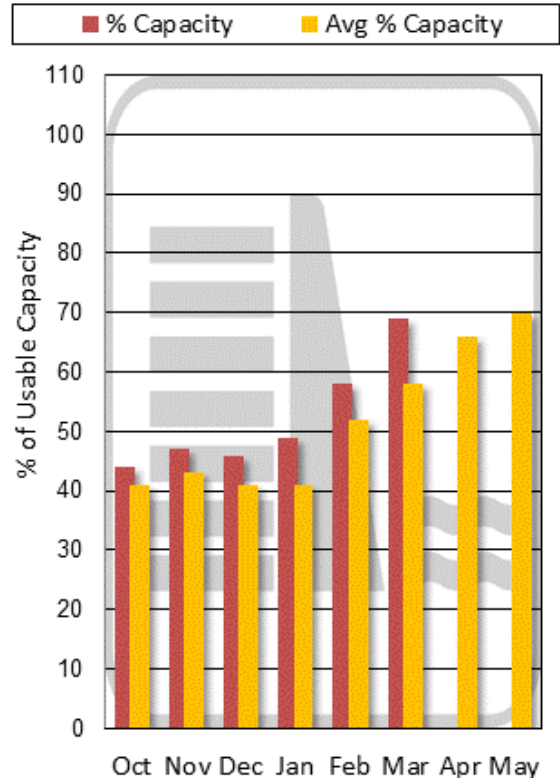
Based on provisional SNOTEL daily data as of 4/1/2017



Mountain and Valley Precipitation



End of Month Reservoir Storage



Storage above is averaged for all reservoirs in the basin. For individual reservoirs see table below.

Smith-Judith- Musselshell

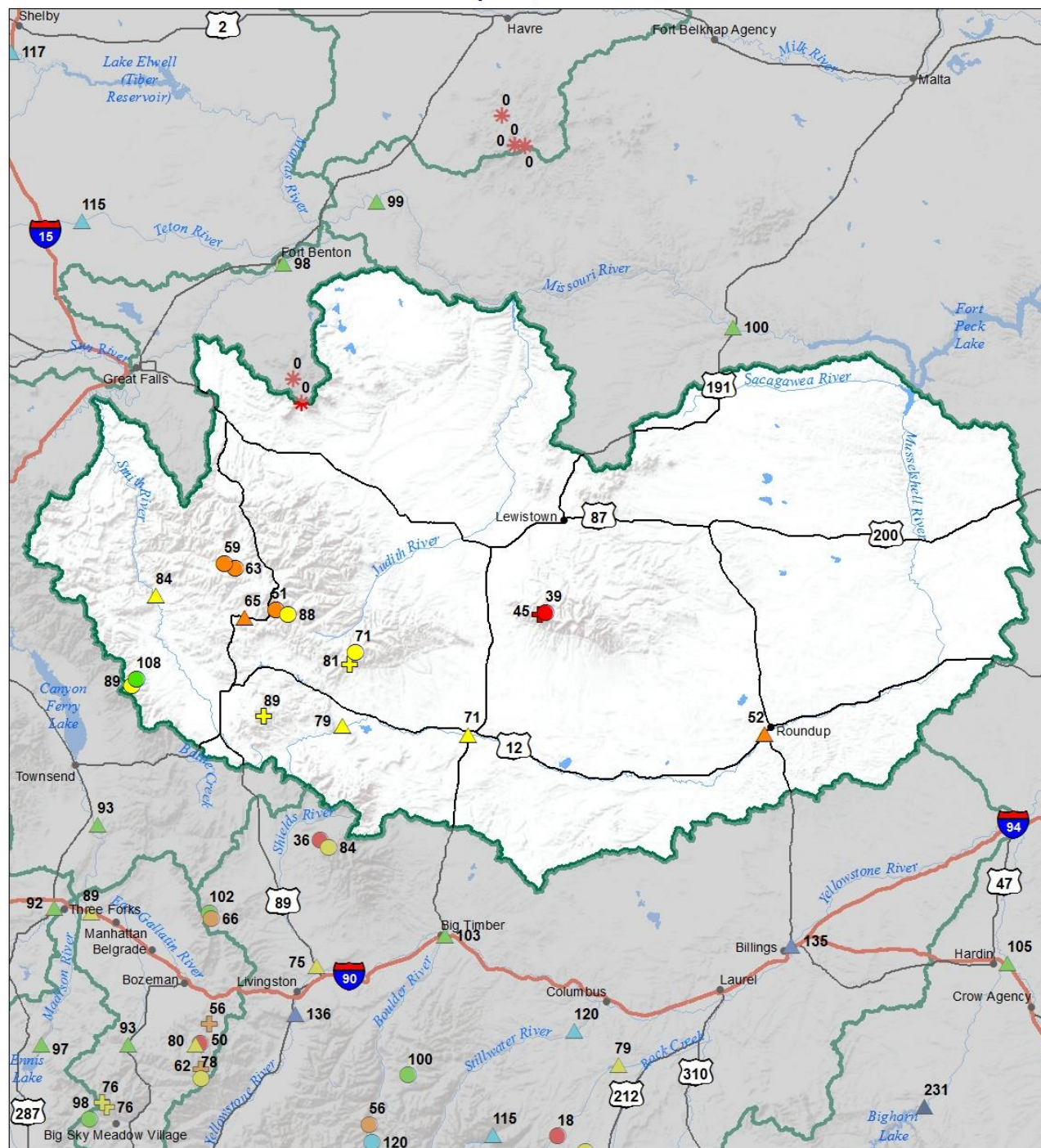
Forecast Point

Sheep Ck nr White Sulphur
Springs

	Chance Actual Volume Will Exceed Forecasted Volume						
Forecast Period	90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
APR-JUL	4.2	7.4	9.6	62%	11.8	15	15.5
APR-SEP	5.4	9.4	12	65%	14.7	18.7	18.4
APR-JUL	33	64	85	80%	106	137	106
APR-SEP	35	72	98	84%	124	161	116
APR-JUL	0.75	17	28	80%	39	55	35
APR-SEP	0.38	18	30	79%	42	60	38
APR-JUL	4.9	26	40	70%	54	75	57
APR-SEP	1.78	25	42	71%	58	81	59
APR-JUL	-23	-8.1	34	51%	77	139	67
APR-SEP	-26	-7.6	34	52%	77	139	66

1) 90% and 10% exceedance probabilities are actually 95% and 5%

Smith-Judith-Musselshell River Basin Streamflow Forecast, Snow Water Equivalent Percentage of Normal April 1, 2017



Snow Water Equivalent Percent of Normal

SNOTEL

- > 150%
- 131 - 150%
- 111 - 130%
- 91 - 110%
- 71 - 90%
- 51 - 70%
- 1 - 50%
- 0%

Snowcourse

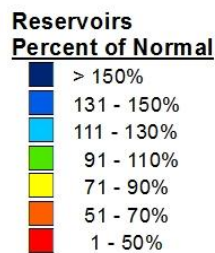
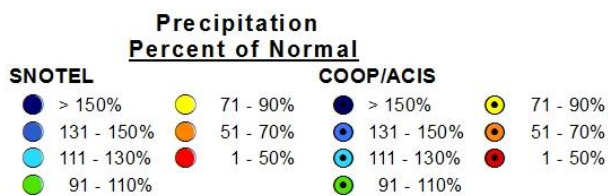
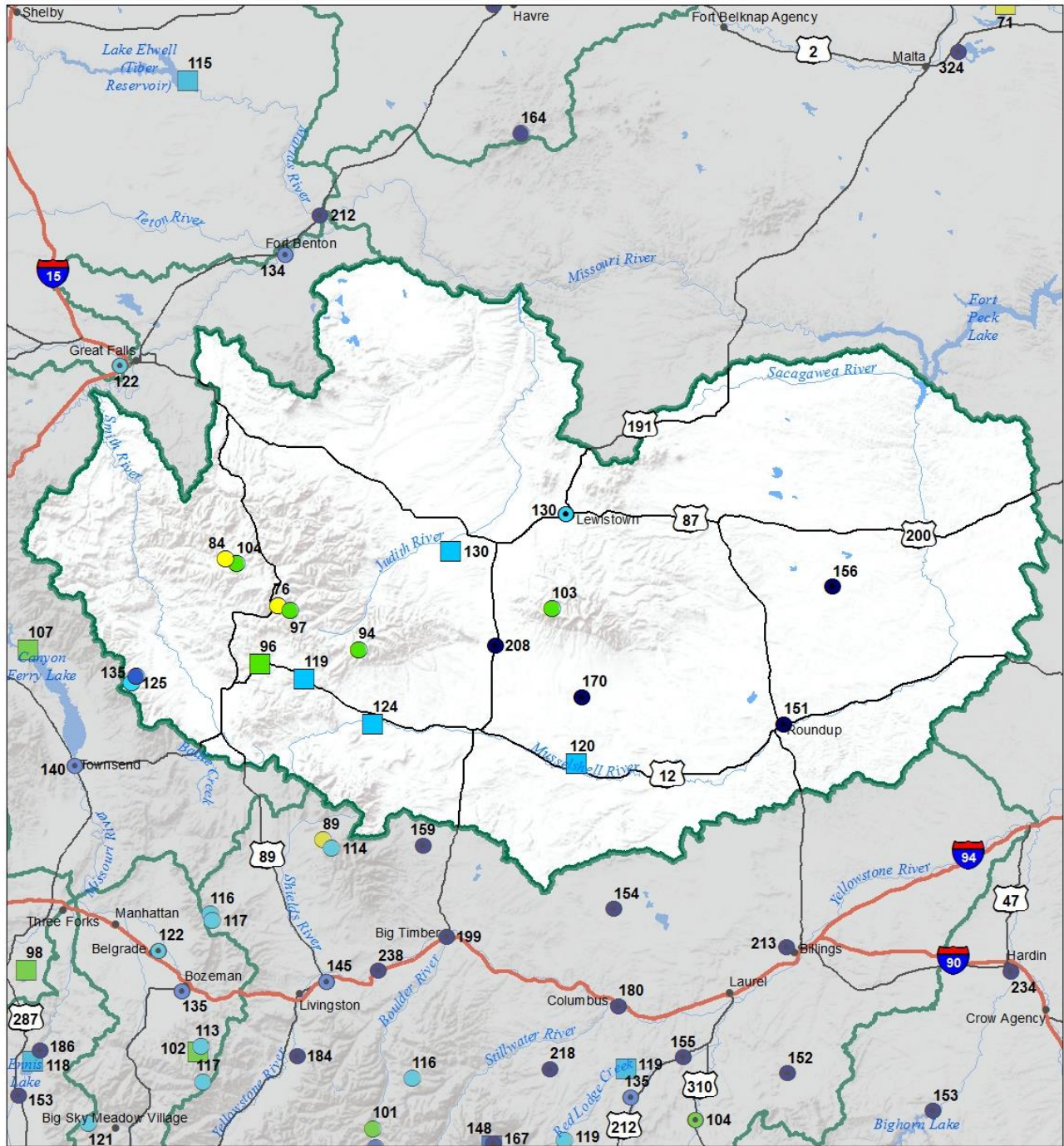
- ✚ > 150%
- ✚ 131 - 150%
- ✚ 111 - 130%
- ✚ 91 - 110%
- ✚ 71 - 90%
- ✚ 51 - 70%
- ✚ 1 - 50%
- ✚ 0%

Streamflow Forecast Percent of Average Flows

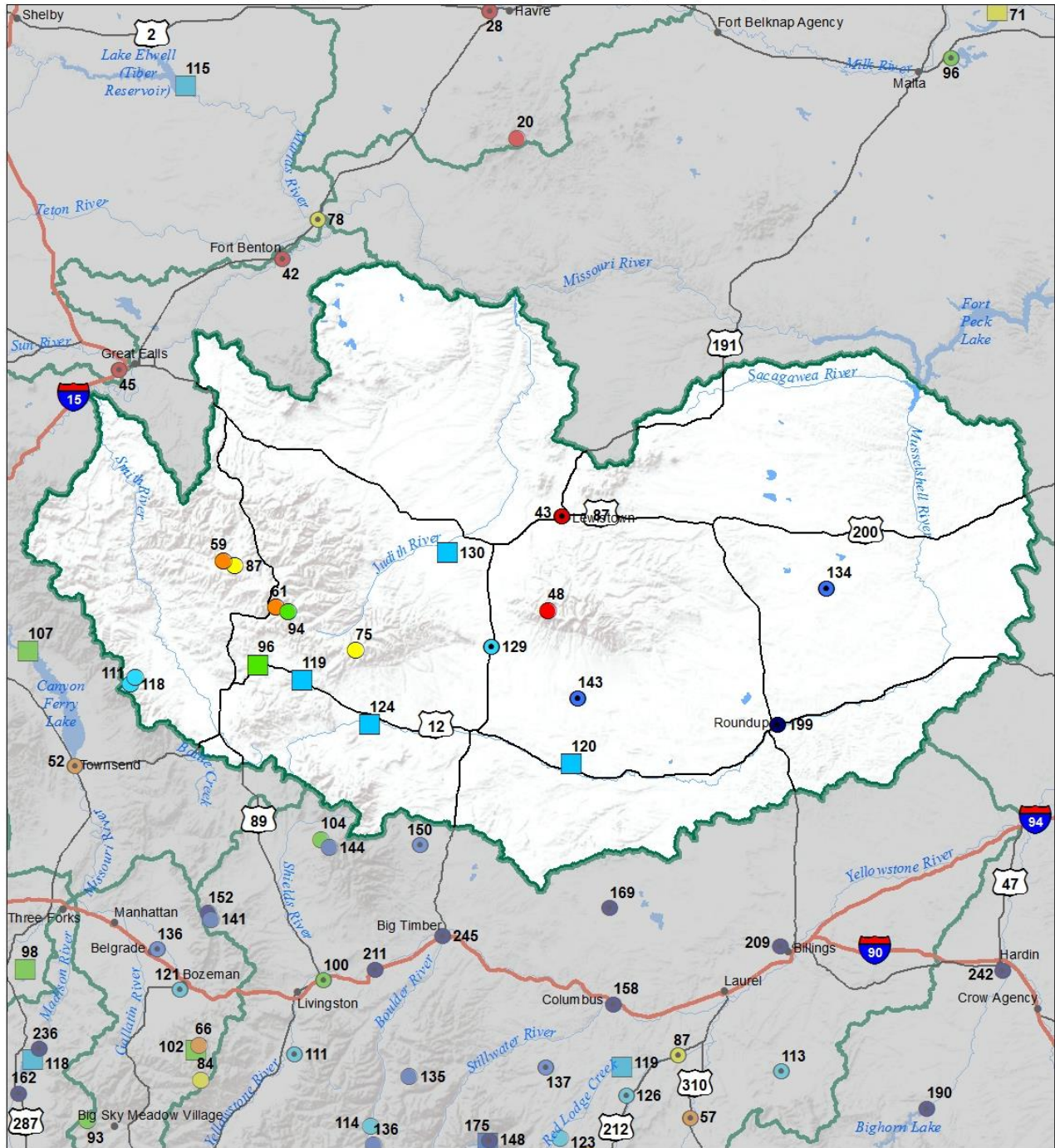
- ▲ > 150%
- ▲ 131 - 150%
- ▲ 111 - 130%
- ▲ 91 - 110%
- ▲ 71 - 90%
- ▲ 51 - 70%
- ▲ 1 - 50%



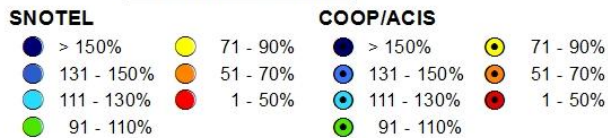
Smith-Judith-Musselshell River Basin
Water Year to Date Precipitation and Reservoir Levels
Percentage of Normal
April 1, 2017



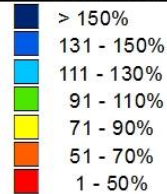
Smith-Judith-Musselshell River Basin
Monthly Precipitation and Reservoir Levels
Percentage of Normal
April 1, 2017 (March 1, 2017 - April 1, 2017)



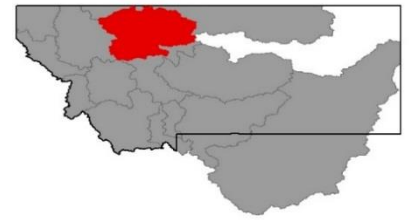
**Precipitation
Percent of Normal**



**Reservoirs
Percent of Normal**



Sun-Teton-Marias River Basin



Precipitation was well above average during March in the Sun-Teton-Marias River basin. The first week of the month was cold and it snowed a significant amount in the mountains. Badger Pass SNOTEL received over 20 inches of snow during the first 10 days of March bringing it to over 100 inches of depth. The fresh snow was almost immediately followed by warm temperatures and rain. From March 11th to the 20st it rained 2.6 inches at Badger Pass SNOTEL settling the snowpack nearly 20 inches. Overall the basin is in much better shape than last year at this time. Currently all NRCS snow measurement locations in the basin have an above average snowpack with the exception of Cabin Creek at 72%, which is the basin's lowest elevation site. Overall, water year-to-date precipitation in the Sun-Teton-Marias River basin is well above average.

Sun-Teton-Marias River Basin Data Summary

Snowpack	Percent of 1981-2010 Normal (Median)	Last Year Percentage of Normal (Median)
SUN	117%	64%
TETON	115%	56%
MARIAS	115%	67%
Basin-Wide	116%	65%

Precipitation	Monthly Percentage of Average	WYTD Percentage of 1981-2010 Average*	WYTD Last Year Percentage of Average
Mountain Precipitation	153%	125%	78%
Valley Precipitation	196%	145%	88%
Basin-Wide Precipitation	162%	129%	80%

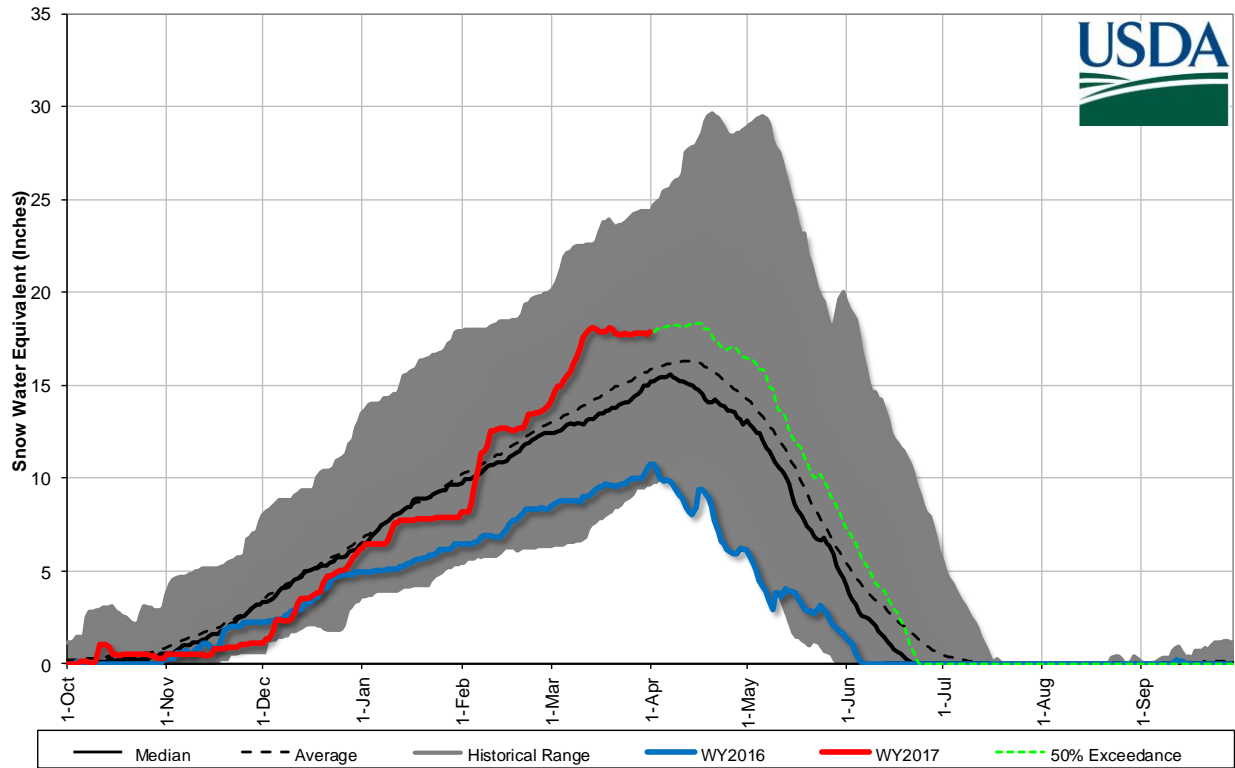
*Water Year-to-Date (WYTD) Precipitation is October 1st - Current

Reservoir Storage	Percentage of Average	Percentage of Capacity (Total)	Last Year Percentage of Average
Basin-Wide Storage	109%	57%	99%

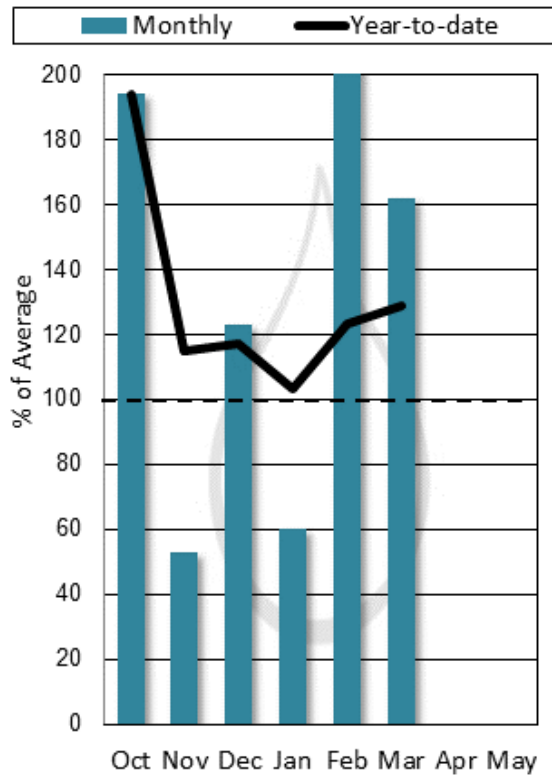
*See Reservoir Storage Table for storage in individual reservoirs

End of Month Storage	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)	% Average	% Capacity
Gibson Res	40.4	36.0	47.9	99.1	84%	41%
Pishkun Res	4.8	15.8	18.2	32.0	26%	15%
Willow Creek Res - Augusta	29.1	27.8	23.8	32.2	122%	90%
Lower Two Medicine Lake	7.0	11.0	9.0	11.9	78%	59%
Four Horns Lake	11.8	9.3	10.1	19.2	117%	62%
Swift Res	11.2	13.3	17.2	30.0	65%	37%
Lake Frances	54.0	52.7	60.1	112.0	90%	48%
Lake Elwell (Tiber)	803.7	706.0	697.7	1347.0	115%	60%
Nilan Reservoir	5.8	8.2	7.2	11.0	81%	53%

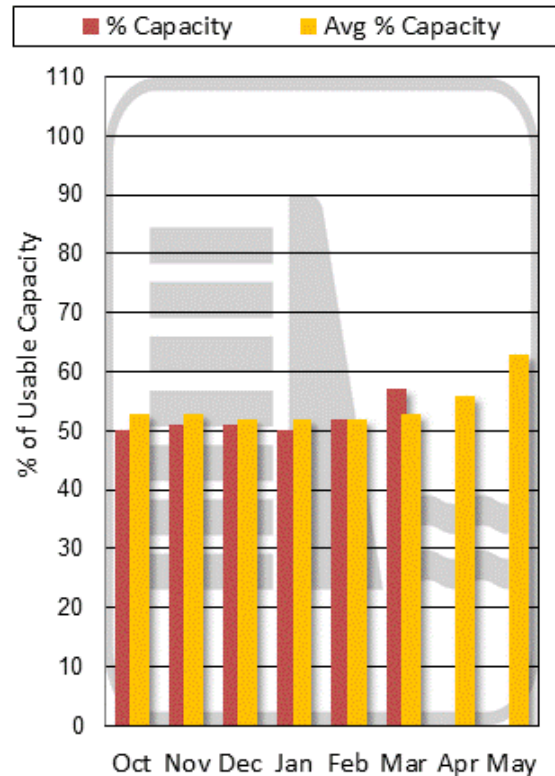
Sun-Teton-Marias River Basin Snowpack with Non-Exceedence Projections
Based on provisional SNOTEL daily data as of 4/1/2017



Mountain and Valley Precipitation



End of Month Reservoir Storage



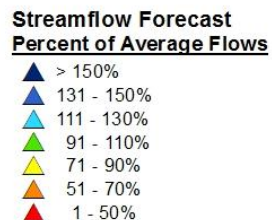
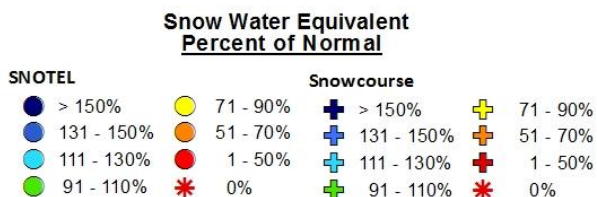
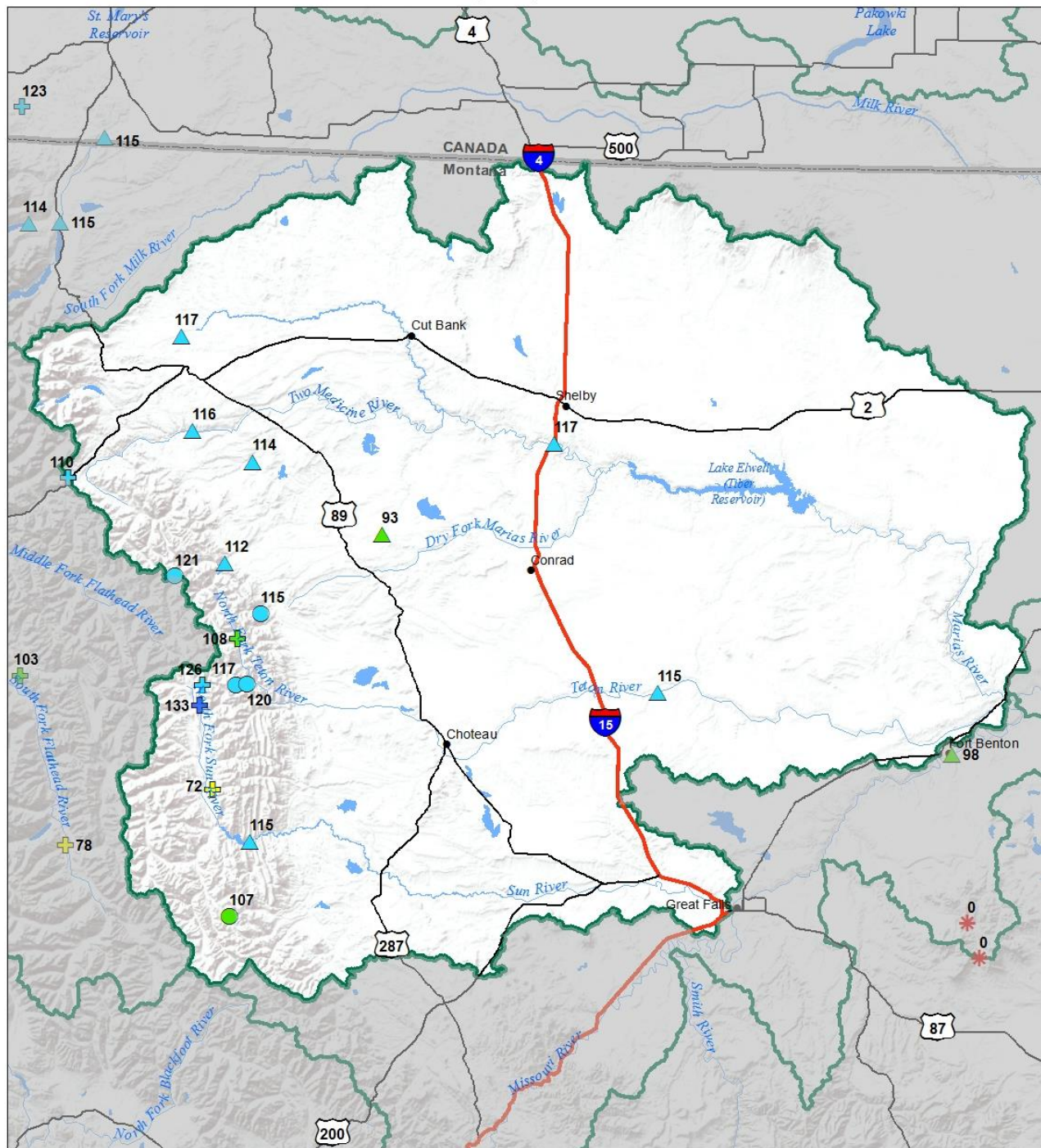
Storage above is averaged for all reservoirs in the basin. For individual reservoirs see table below.

Sun-Teton-Marias Basins

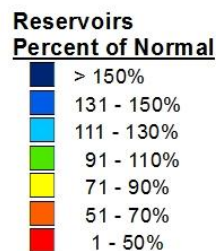
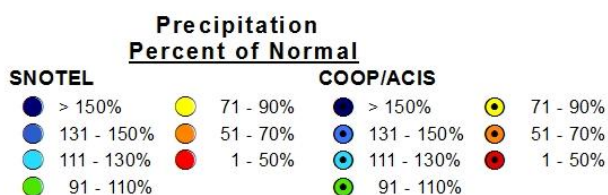
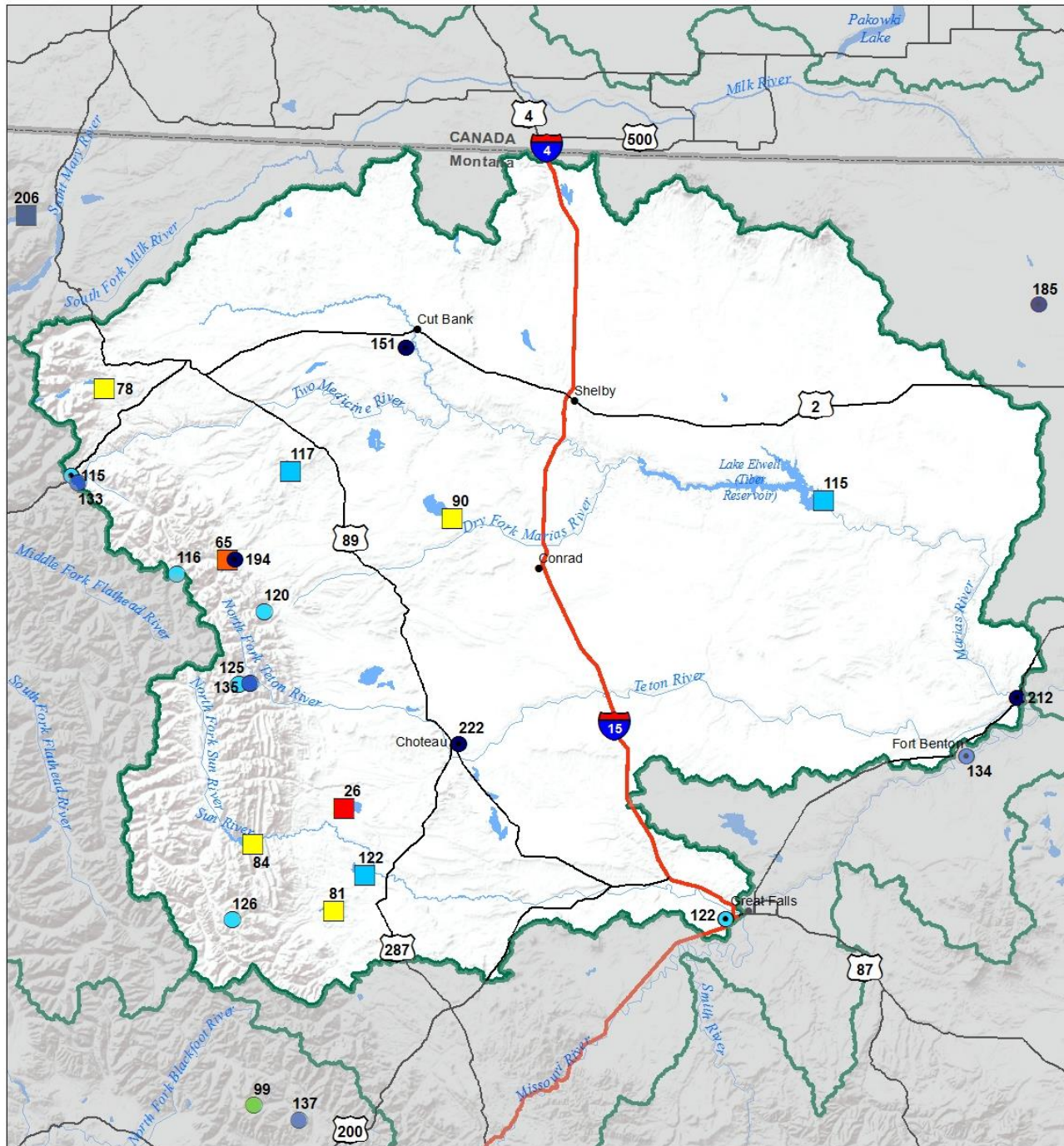
Forecast Point	Forecast Period	Chance Actual Volume Will Exceed Forecasted Volume						30yr Avg (KAF)
		90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	
Gibson Reservoir Inflow	APR-JUL	380	425	460	116%	495	540	395
	APR-SEP	415	470	505	115%	540	595	440
Two Medicine R nr Browning ²	APR-JUL	176	199	215	117%	230	255	183
	APR-SEP	186	210	225	116%	245	270	194
Badger Ck nr Browning	APR-JUL	76	91	101	115%	112	127	88
	APR-SEP	88	105	117	114%	128	145	103
Swift Reservoir Inflow ²	APR-JUL	44	56	63	111%	71	83	57
	APR-SEP	53	66	75	112%	84	97	67
Dupuyer Ck nr Valier	APR-JUL	4.6	8	10.4	94%	12.7	16.1	11.1
	APR-SEP	5.5	9.3	11.8	93%	14.4	18.1	12.7
Cut Bank Ck nr Browning	APR-JUL	62	73	81	117%	89	100	69
	APR-SEP	67	80	88	117%	96	109	75
Marias R nr Shelby ²	APR-JUL	295	370	420	117%	475	550	360
	APR-SEP	305	385	440	117%	495	580	375
Teton R nr Dutton	APR-JUL	5.4	31	49	117%	67	93	42
	APR-SEP	7.8	36	55	115%	74	102	48

1) 90% and 10% exceedance probabilities are actually 95% and 5%

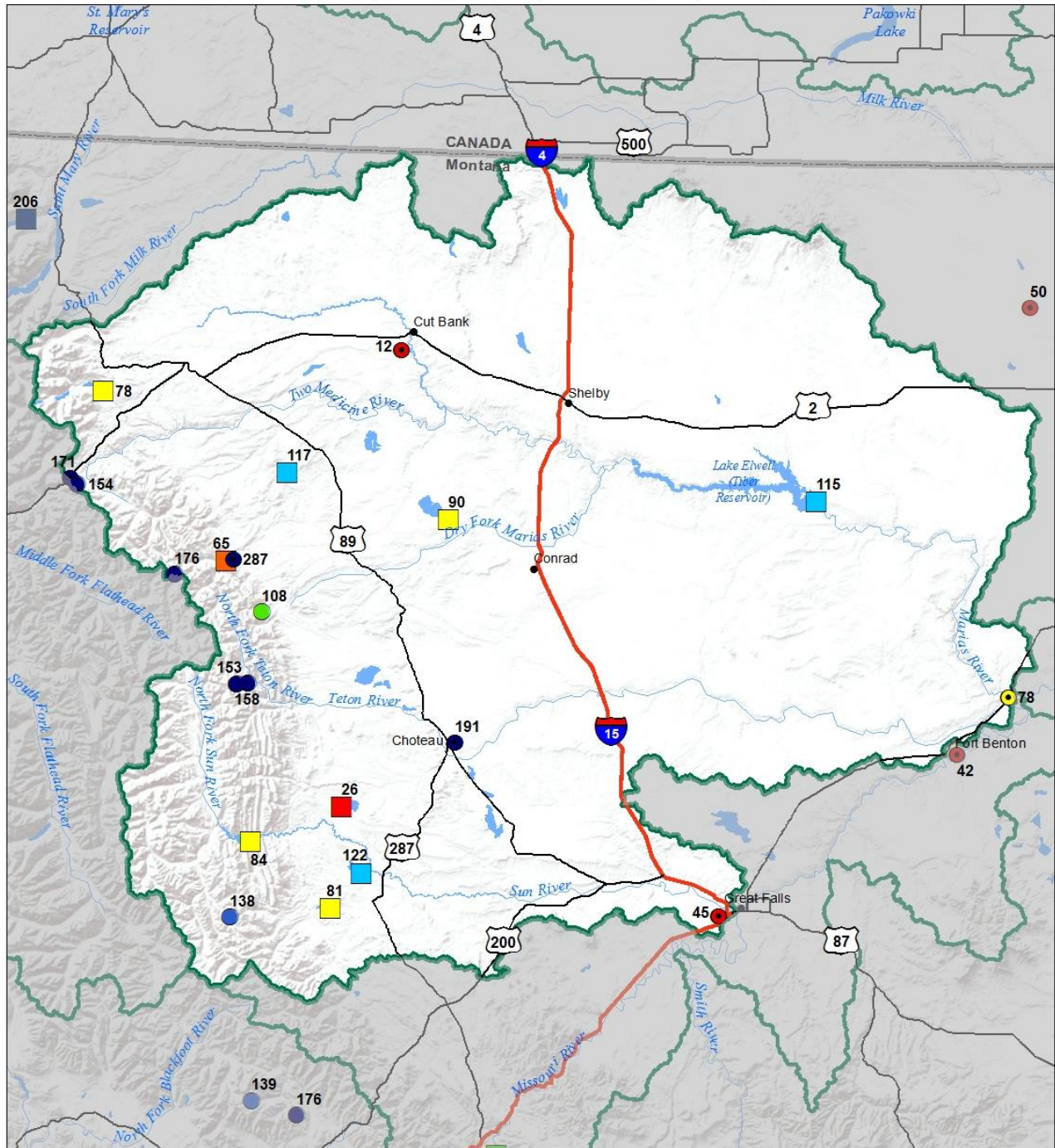
**Sun-Teton-Marias River Basin
Streamflow Forecast, Snow Water Equivalent
Percentage of Normal
April 1, 2017**



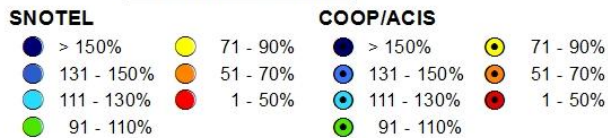
Sun-Teton-Marias River Basin
Water Year to Date Precipitation and Reservoir Levels
Percentage of Normal
April 1, 2017



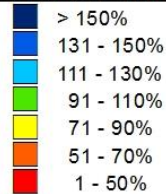
Sun-Teton-Marias River Basin
Monthly Precipitation and Reservoir Levels
Percentage of Normal
April 1, 2017 (March 1, 2017 - April 1, 2017)



**Precipitation
Percent of Normal**



**Reservoirs
Percent of Normal**



St. Mary-Milk River Basin



The Saint Mary-Milk River basin received well above average precipitation in March. During the first 2 weeks of the month mountain precipitation arrived as snow. After that temperatures warmed and it rained at all elevations. From March 14th to the 23rd Flattop Mountain SNOTEL (6300 ft) received 5.8 inches of rain. This rain was absorbed by the deeper high elevation snowpack in the basin, however significant low elevation snow melted during this week. As of April 1st the snowpack at Flattop Mountain SNOTEL was at 117 percent of normal with still about 2 weeks before its normal peak date. Rocky Boy SNOTEL near Havre melted out on March 24th. Overall, water year-to-date precipitation in the Saint-Mary-Milk River basin is well above average.

St. Mary-Milk River Basin Data Summary

Snowpack	Percent of 1981-2010 Normal (Median)	Last Year Percentage of Normal (Median)
ST. MARY	108%	82%
BEARPAW MOUNTAINS	0%	2%
CYPRESS HILLS, CANADA	%	%
MILK RIVER BASIN	0%	2%
Basin-Wide	92%	70%

Precipitation	Monthly Percentage of Average	WYTD Percentage of 1981-2010 Average*	WYTD Last Year Percentage of Average
Mountain Precipitation (St. Mary)	212%	137%	108%
Mountain Precipitation (Bearpaw Mtns)	32%	172%	109%
Valley Precipitation	93%	237%	142%
Basin-Wide Precipitation	149%	157%	112%

*Water Year-to-Date (WYTD) Precipitation is October 1st - Current

Reservoir Storage	Percentage of Average	Percentage of Capacity (Total)	Last Year Percentage of Average
Basin-Wide Storage	139%	64%	120%

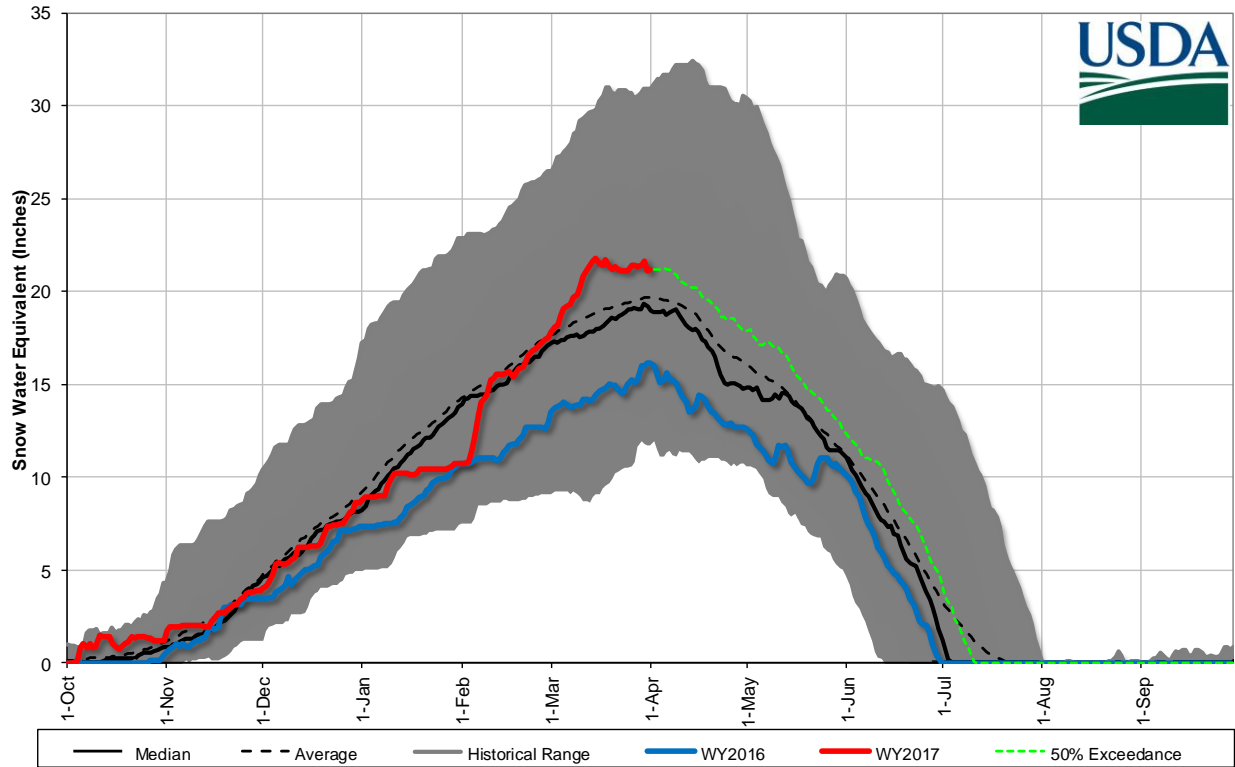
*See Reservoir Storage Table for storage in individual reservoirs

End of Month Storage

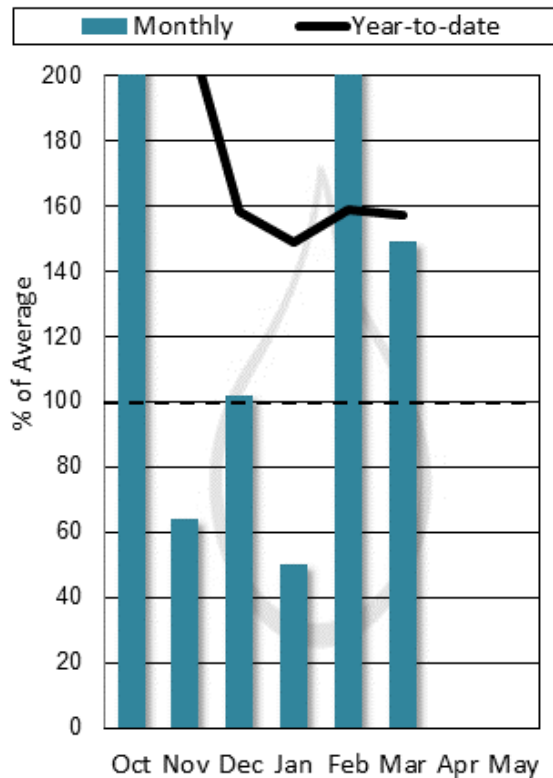
	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)	% Average	% Capacity
Lake Sherburne	54.4	38.4	26.4	64.3	206%	85%
Fresno Res	86.5	62.0	58.6	127.0	148%	68%
Nelson Res	24.2	42.8	34.0	66.8	71%	36%

Saint Mary-Milk River Basin Snowpack with Non-Exceedence Projections

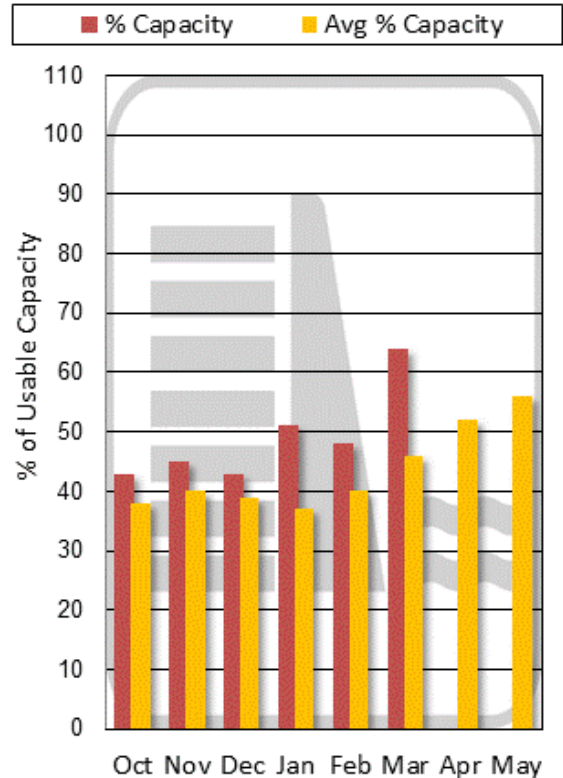
Based on provisional SNOTEL daily data as of 4/1/2017



Mountain and Valley Precipitation



End of Month Reservoir Storage



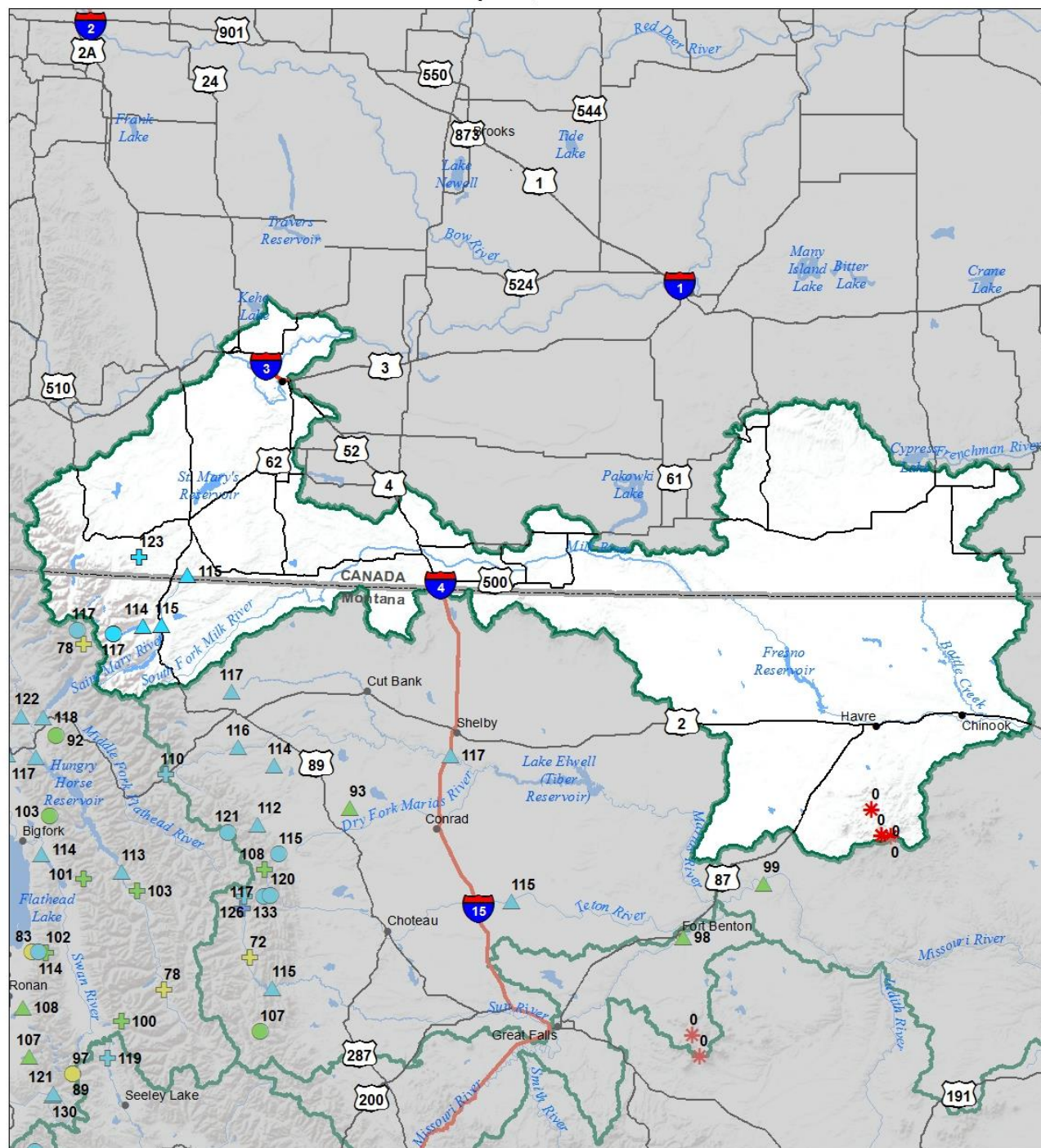
Storage above is averaged for all reservoirs in the basin. For individual reservoirs see table below.

St. Mary River Basin

		Chance Actual Volume Will Exceed Forecasted Volume						
ST. MARY & MILK BASINS		90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	30yr Avg (KAF)
Lake Sherburne Inflow	APR-JUL	94	105	112	115%	119	130	97
	APR-SEP	108	120	128	114%	136	148	112
Two Medicine R nr Browning ²	APR-JUL	365	405	430	116%	455	495	370
	APR-SEP	415	460	490	115%	520	565	425
Badger Ck nr Browning	APR-JUL	415	470	510	117%	550	605	435
	APR-SEP	470	535	580	115%	625	690	505

1) 90% and 10% exceedance probabilities are actually 95% and 5%

**St Mary's-Milk River Basin
Streamflow Forecast, Snow Water Equivalent
Percentage of Normal
April 1, 2017**



**Snow Water Equivalent
Percent of Normal**

SNOTEL

- > 150%
- 131 - 150%
- 111 - 130%
- 91 - 110%

Snowcourse

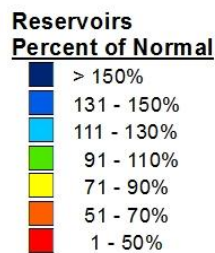
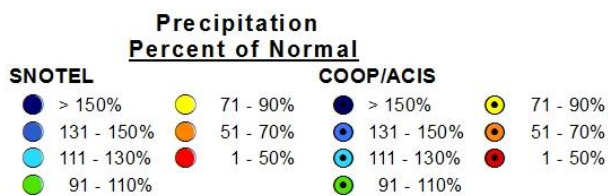
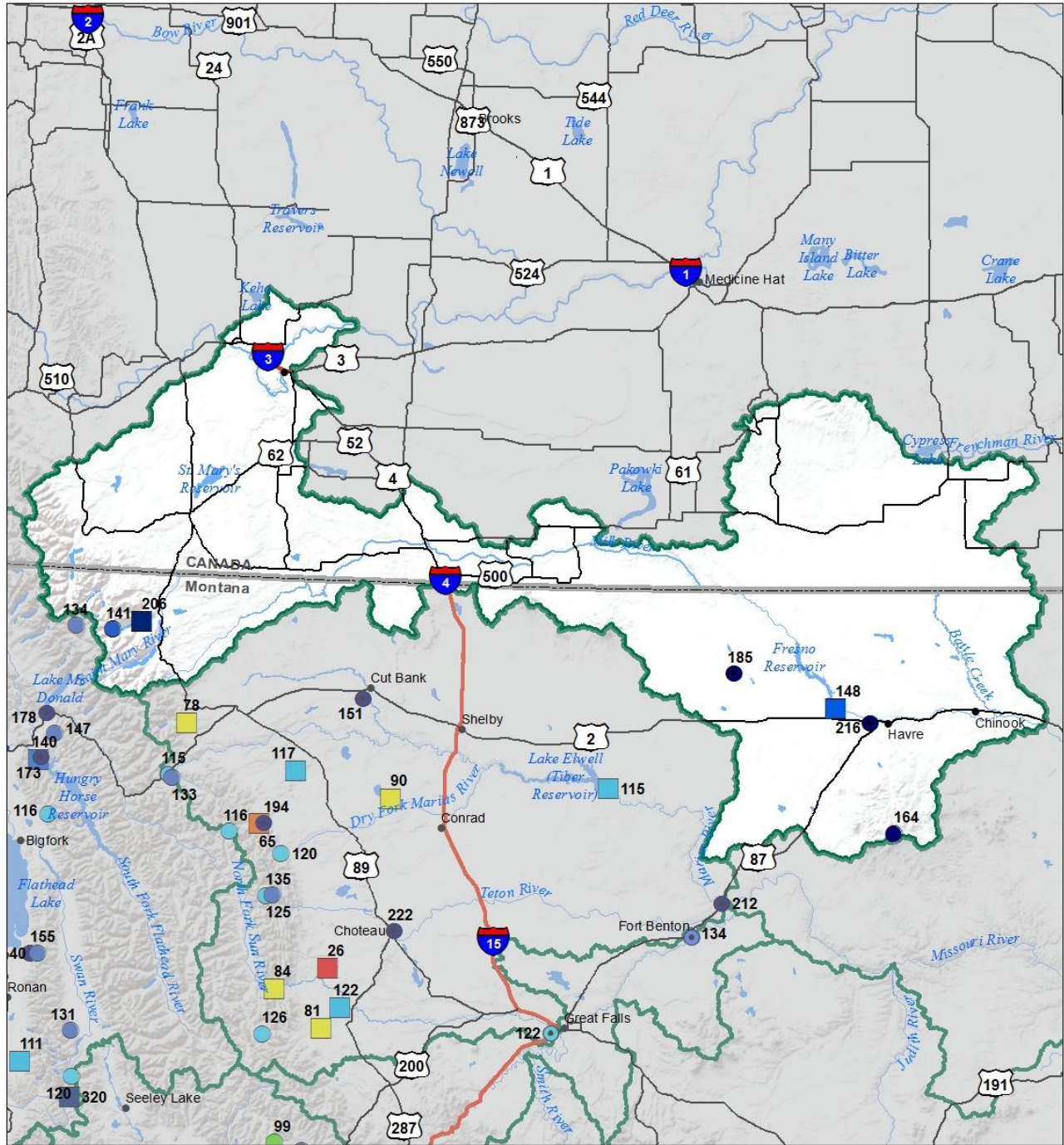
- > 150%
- 131 - 150%
- 111 - 130%
- 91 - 110%
- 71 - 90%
- 51 - 70%
- 1 - 50%
- 0%

**Streamflow Forecast
Percent of Average Flows**

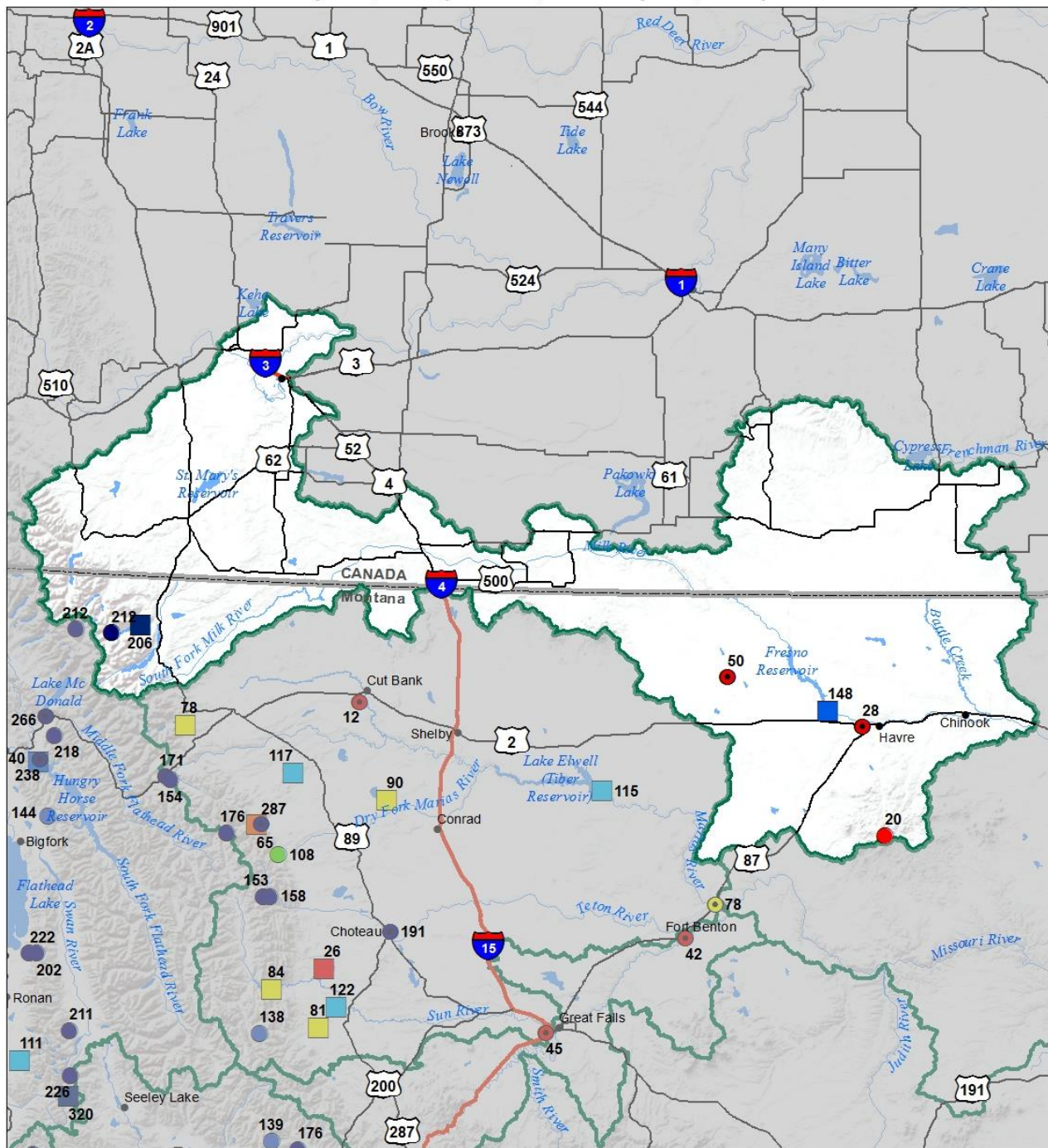
- ▲ > 150%
- ▲ 131 - 150%
- ▲ 111 - 130%
- ▲ 91 - 110%
- ▲ 71 - 90%
- ▲ 51 - 70%
- ▲ 1 - 50%



St Mary's-Milk River Basin
Water Year to Date Precipitation and Reservoir Levels
Percentage of Normal
April 1, 2017



**St Mary's-Milk River Basin
Monthly Precipitation and Reservoir Levels
Percentage of Normal
April 1, 2017 (March 1, 2017 - April 1, 2017)**



Precipitation
Percent of Normal








SNOTEL

- > 150%
- 131 - 150%
- 111 - 130%
- 91 - 110%

COOP/ACIS

 > 150%  71 - 90%
 131 - 150%  51 - 70%
 111 - 130%  1 - 50%
 91 - 110%

Reservoirs
Percent of Normal

	> 150%
	131 - 150%
	111 - 130%
	91 - 110%
	71 - 90%
	51 - 70%
	1 - 50%





Upper Yellowstone River Basin

Precipitation since the start of February has been well above average in the Upper Yellowstone River basin. In the upper reaches of the basin Parker Peak SNOTEL has the biggest snowpack in 36 years of record. The Cooke City area also had a big year and month. The median snow water accumulation at Fisher Creek SNOTEL for March is 4.3 inches. This march it received 10.1 inches of snow water and is currently at 142% of normal. With that being said, the snowpack in the lower stretches of the basin continues to be below normal. Both Shower Falls and Lick Creek SNOTEL have the lowest snowpack in over 50 years of record. Overall, water year-to-date precipitation in the Upper Yellowstone River basin has been well above average.

Upper Yellowstone River Basin Data Summary

Snowpack

	Percent of 1981-2010 Normal (Median)	Last Year Percentage of Normal (Median)
YELLOWSTONE ab LIVINGSTON	128%	94%
SHIELDS	80%	98%
BOULDER-STILLWATER	100%	93%
RED LODGE-ROCK CREEK	85%	72%
CLARK'S FORK	146%	99%
Basin-Wide	117%	93%

Precipitation

	Monthly Percentage of Average	WYTD Percentage of 1981- 2010 Average*	WYTD Last Year Percentage of Average
Mountain Precipitation	152%	144%	98%
Valley Precipitation	143%	172%	115%
Basin-Wide Precipitation	151%	147%	100%

*Water Year-to-Date (WYTD) Precipitation is October 1st - Current

Reservoir Storage

	Percentage of Average	Percentage of Capacity (Total)	Last Year Percentage of Average
Basin-Wide Storage	120%	53%	122%

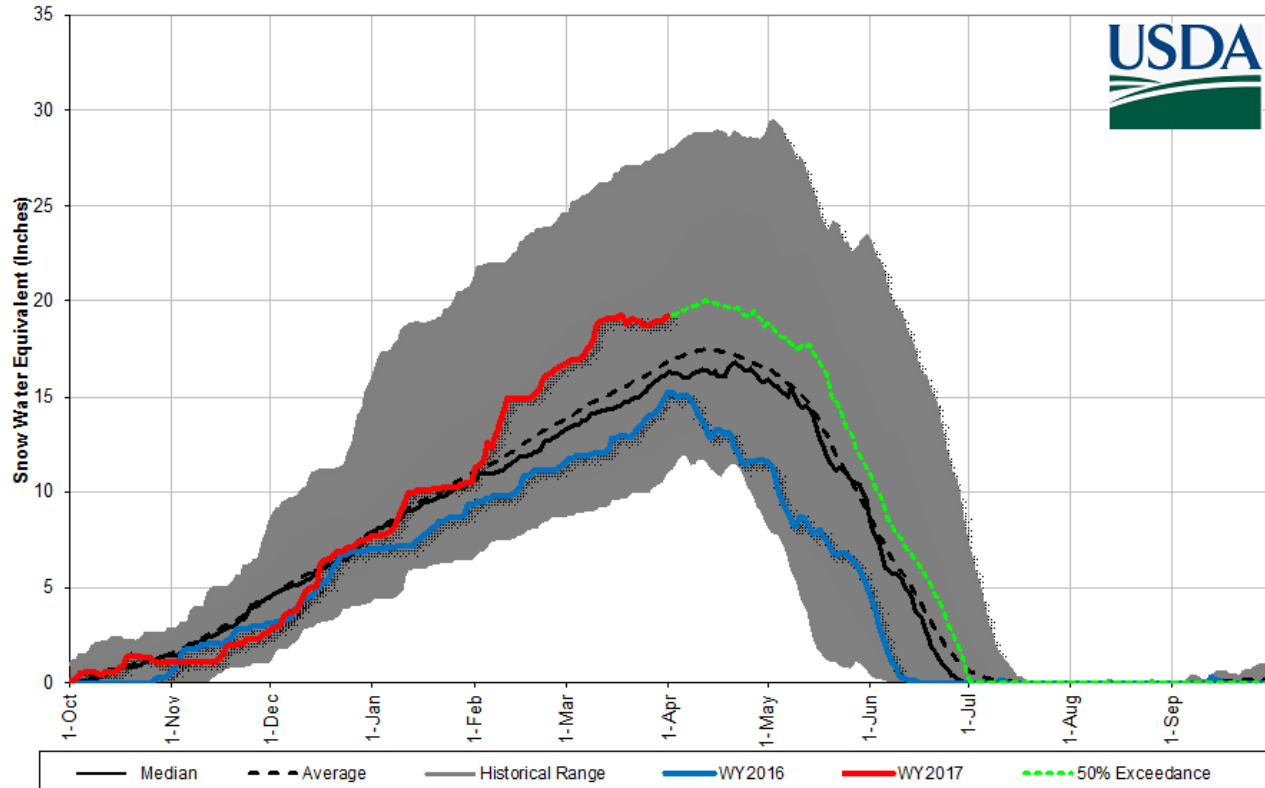
*See Reservoir Storage Table for storage in individual reservoirs

End of Month Storage

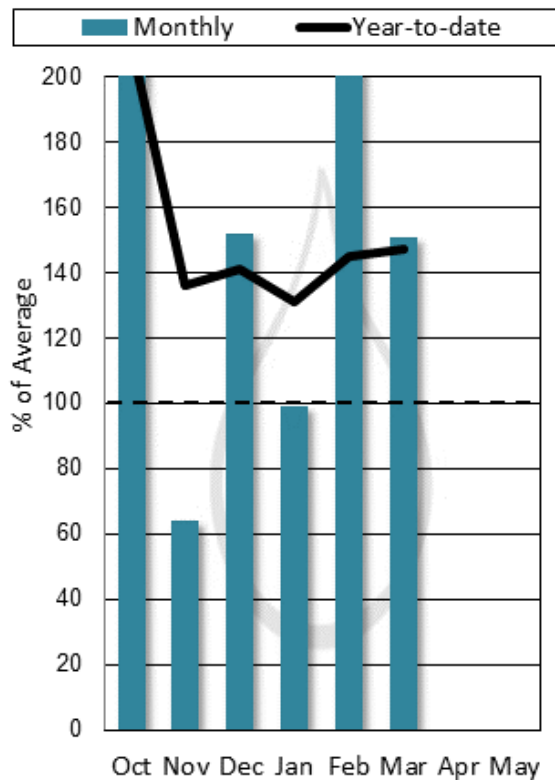
	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)	% Average	% Capacity
Mystic Lake	1.5	2.3	1.0	21.0	148%	7%
Cooney Res	24.0	23.5	20.2	27.4	119%	88%

Upper Yellowstone River Basin Snowpack with Non-Exceedence Projections

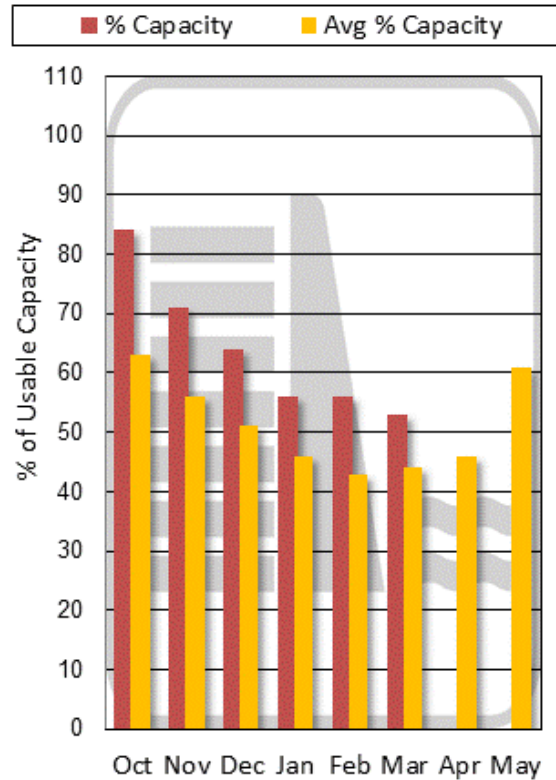
Based on provisional SNOTEL daily data as of 4/1/2017



Mountain and Valley Precipitation



End of Month Reservoir Storage



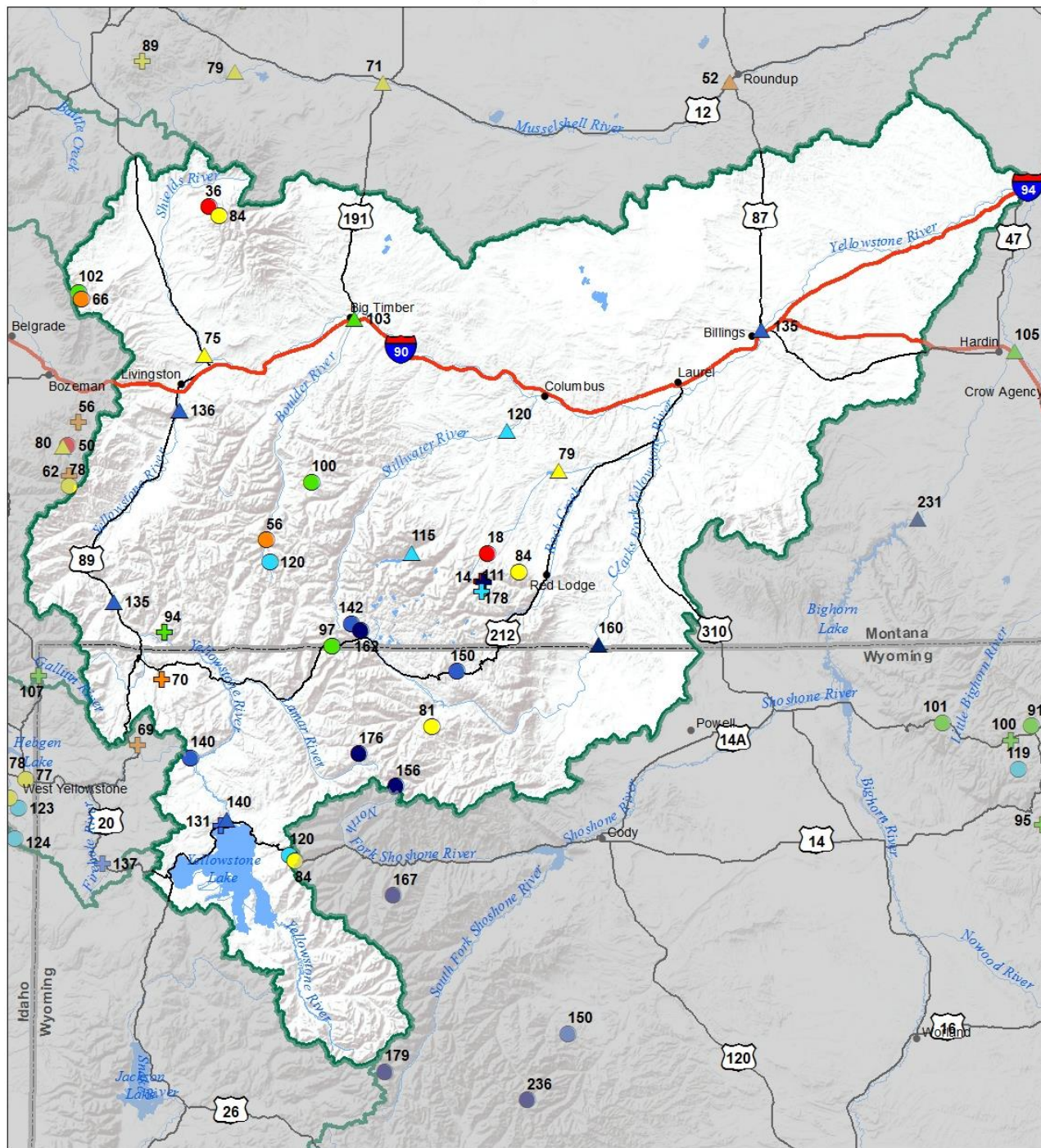
Storage above is averaged for all reservoirs in the basin. For individual reservoirs see table below.

Upper Yellowstone River Basin

Forecast Point	Forecast Period	Chance Actual Volume Will Exceed Forecasted Volume						30yr Avg (KAF)
		90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	
Yellowstone R at Yellowstone Lake Outlet	APR-JUL	710	775	820	143%	865	930	575
	APR-SEP	935	1020	1080	140%	1150	1240	770
Yellowstone R at Corwin Springs	APR-JUL	1870	2040	2150	135%	2260	2430	1590
	APR-SEP	2200	2400	2530	135%	2660	2860	1880
Yellowstone R at Livingston	APR-JUL	2110	2320	2470	137%	2620	2830	1800
	APR-SEP	2480	2730	2900	136%	3070	3330	2140
Shields R nr Livingston	APR-JUL	44	76	98	76%	120	152	129
	APR-SEP	49	84	107	75%	130	165	143
Boulder R at Big Timber	APR-JUL	215	260	290	104%	320	365	280
	APR-SEP	230	275	310	103%	345	390	300
Mystic Lake Inflow ²	APR-JUL	58	63	66	112%	69	74	59
	APR-SEP	74	81	85	115%	89	96	74
Stillwater R nr Absarokee ²	APR-JUL	420	485	530	119%	575	640	445
	APR-SEP	495	575	625	120%	675	755	520
Clarks Fk Yellowstone R nr Belfry	APR-JUL	710	765	805	158%	845	900	510
	APR-SEP	775	835	880	160%	925	985	550
Cooney Reservoir Inflow	APR-JUL	9.9	21	29	76%	37	49	38
	APR-SEP	16.8	29	38	79%	47	59	48
Yellowstone R at Billings	APR-JUL	3540	4040	4380	136%	4720	5220	3230
	APR-SEP	4020	4610	5020	135%	5430	6020	3730

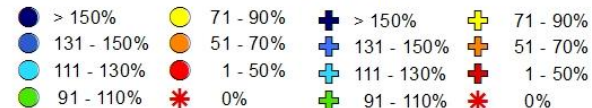
1) 90% and 10% exceedance probabilities are actually 95% and 5%

**Upper Yellowstone River Basin
Streamflow Forecast, Snow Water Equivalent
Percentage of Normal
April 1, 2017**

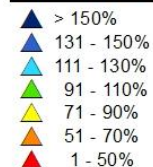


**Snow Water Equivalent
Percent of Normal**

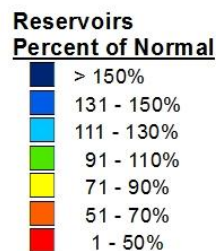
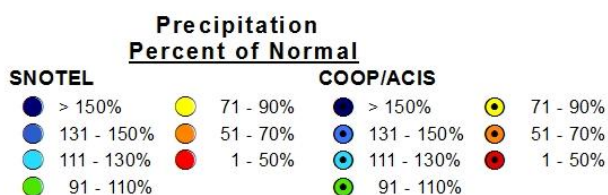
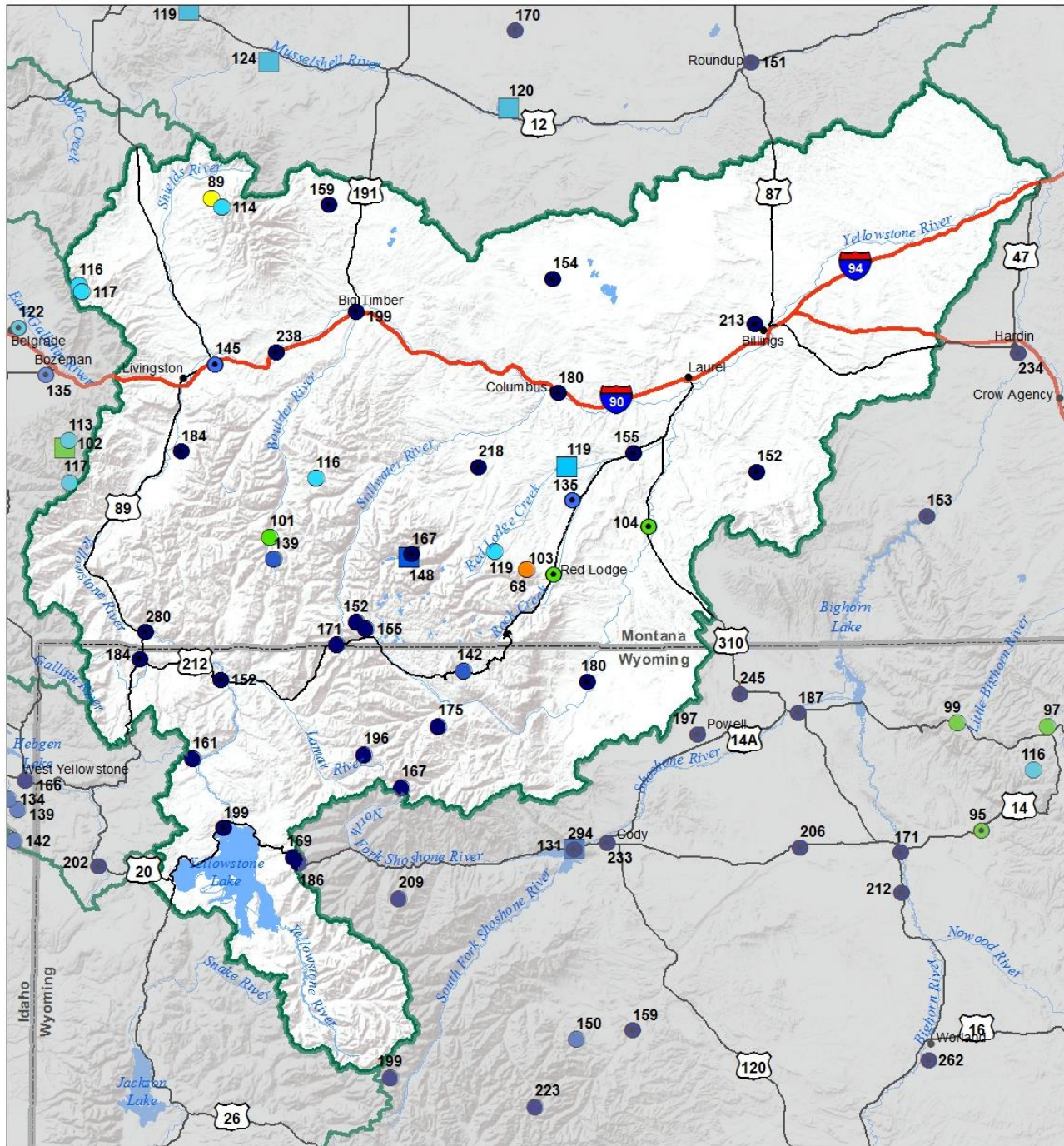
SNOTEL



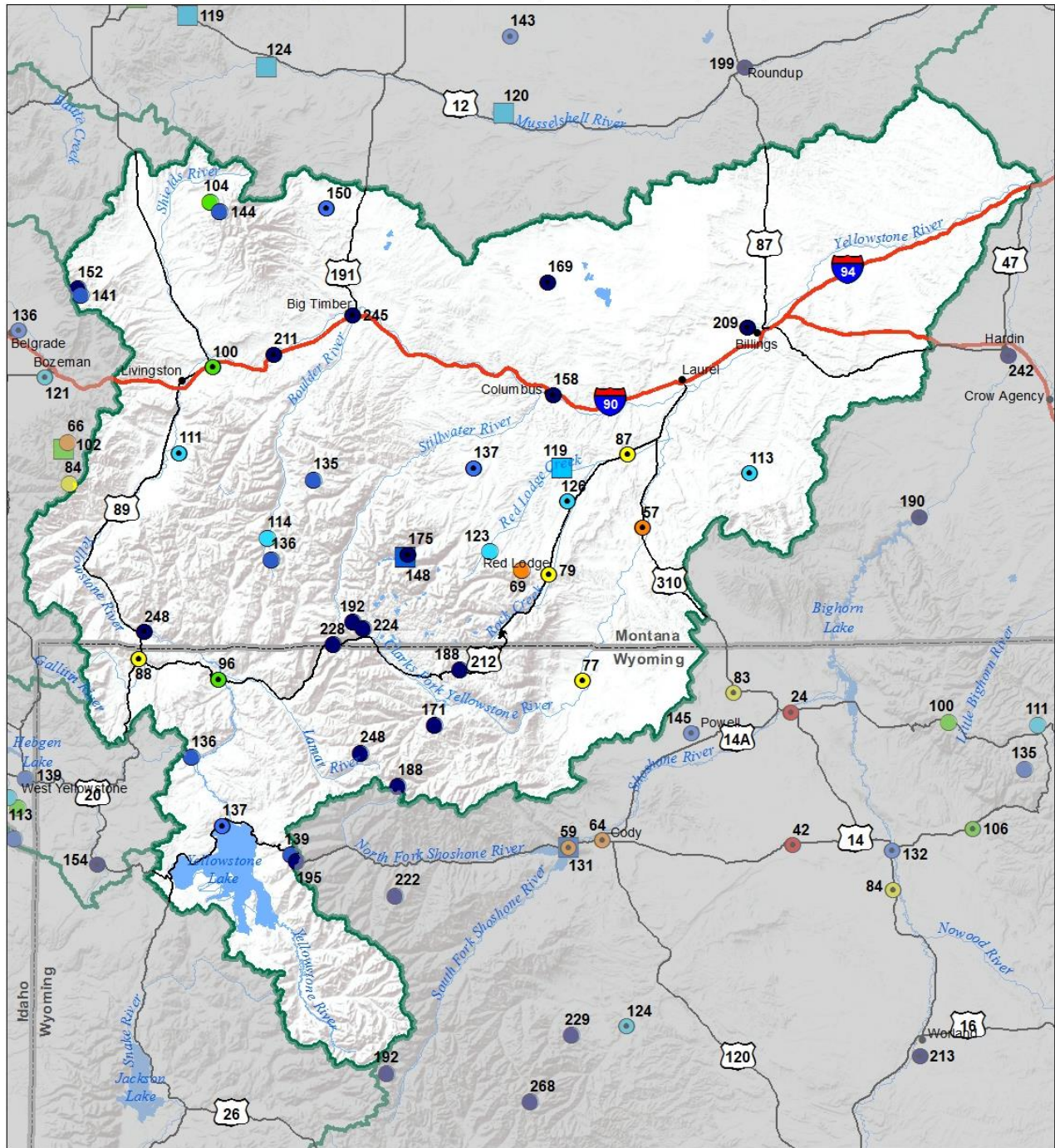
**Streamflow Forecast
Percent of Average Flows**



**Upper Yellowstone River Basin
Water Year to Date Precipitation and Reservoir Levels
Percentage of Normal
April 1, 2017**



**Upper Yellowstone River Basin
Monthly Precipitation and Reservoir Levels
Percentage of Normal
April 1, 2017 (March 1, 2017 - April 1, 2017)**



**Precipitation
Percent of Normal**

SNOTEL		COOP/ACIS	
●	> 150%	●	> 150%
●	131 - 150%	●	131 - 150%
●	111 - 130%	●	111 - 130%
●	91 - 110%	●	91 - 110%
●	71 - 90%	●	71 - 90%
●	51 - 70%	●	51 - 70%
●	1 - 50%	●	1 - 50%

**Reservoirs
Percent of Normal**

■	> 150%
■	131 - 150%
■	111 - 130%
■	91 - 110%
■	71 - 90%
■	51 - 70%
■	1 - 50%





Lower Yellowstone River Basin

March was another above average month of precipitation in the Lower Yellowstone River basin. The most significant precipitation came near the end of the month. Hobbs Park SNOTEL got 26 inches of snow in 24hrs on March 31st. All MT DCO SNOTEL sites in the Wind River Range have their largest snowpack on record. Further to the northeast the Big Horn Mountains also had a big month. Bone Springs Divide SNOTEL received over 140% of its normal March snow water accumulation. Even further to the east the Black Hills are lacking snow. Blind Park and Cole Canyon SNOTEL melted out near the end of the month, while North Rapid SNOTEL is nearly melted out. Overall, water year-to-date precipitation in the Lower Yellowstone River basin has been well above average.

Lower Yellowstone River Basin Data Summary

Snowpack

	Percent of 1981-2010 Normal (Median)	Last Year Percentage of Normal (Median)
WIND RIVER BASIN	192%	106%
SHOSHONE RIVER BASIN	146%	96%
BIGHORN RIVER BASIN	125%	92%
LITTLE BIGHORN BASIN	98%	76%
TONGUE RIVER BASIN	111%	74%
POWDER RIVER BASIN	101%	92%
Basin-Wide	145%	94%

Precipitation

	Monthly Percentage of Average	WYTD Percentage of 1981- 2010 Average*	WYTD Last Year Percentage of Average
Mountain Precipitation	174%	152%	91%
Valley Precipitation	186%	159%	99%
Basin-Wide Precipitation	178%	154%	94%

*Water Year-to-Date (WYTD) Precipitation is October 1st - Current

Reservoir Storage

	Percentage of Average	Percentage of Capacity (Total)	Last Year Percentage of Average
Basin-Wide Storage	100%	57%	106%

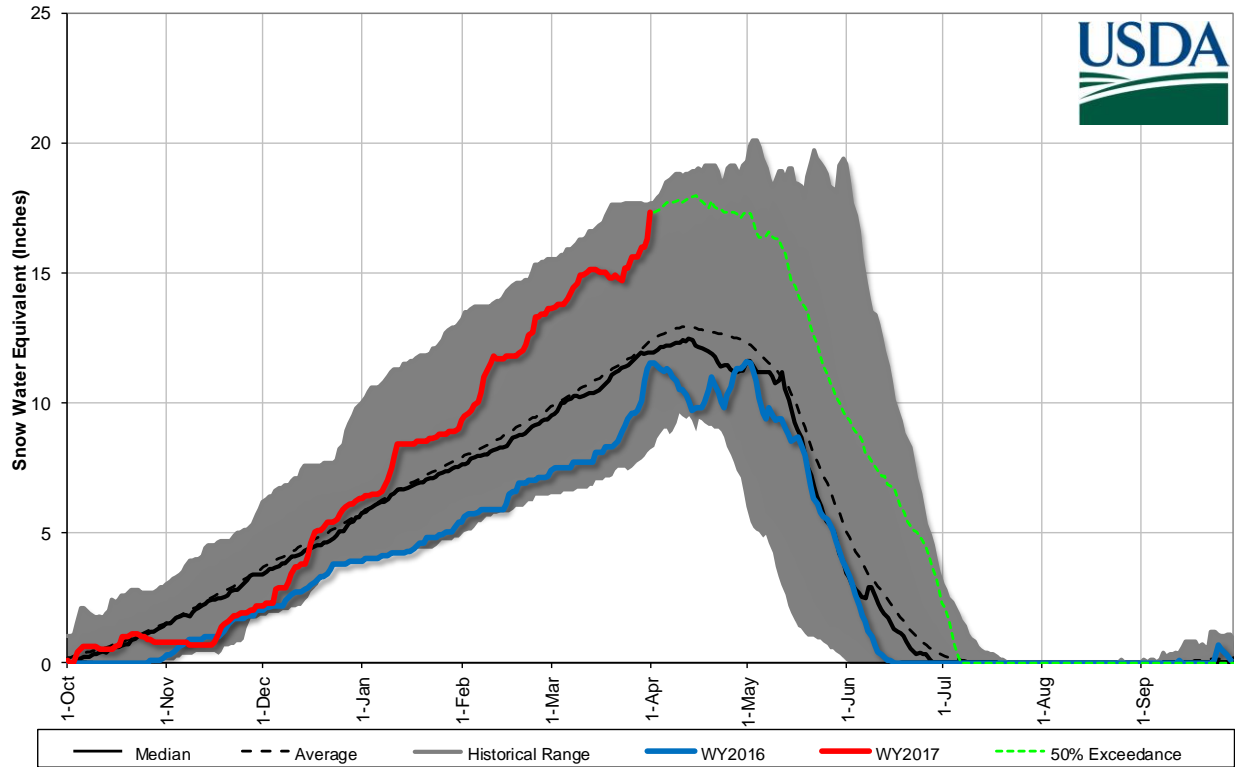
*See Reservoir Storage Table for storage in individual reservoirs

End of Month Storage

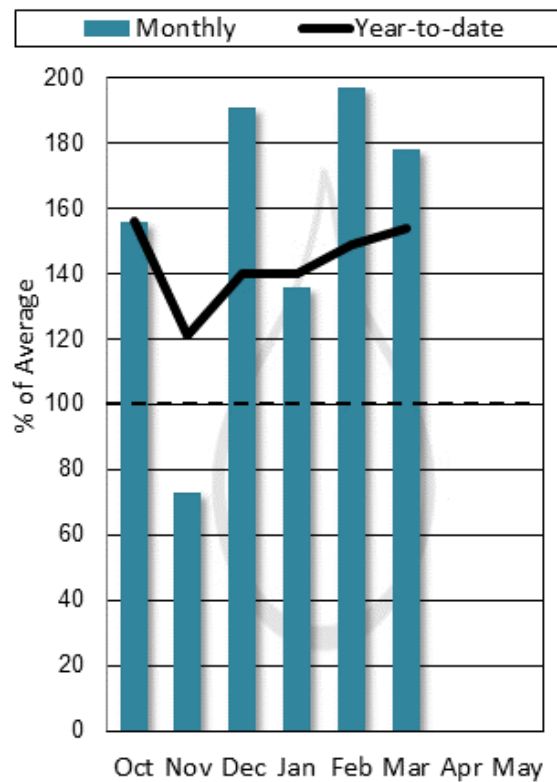
	Current (KAF)	Last Year (KAF)	Average (KAF)	Capacity (KAF)	% Average	% Capacity
Bighorn Lake	751.5	813.4	787.5	1356.0	95%	55%
Tongue River Res	64.7	58.3	32.3	79.1	200%	82%

Lower Yellowstone River Basin Snowpack with Non-Exceedence Projections

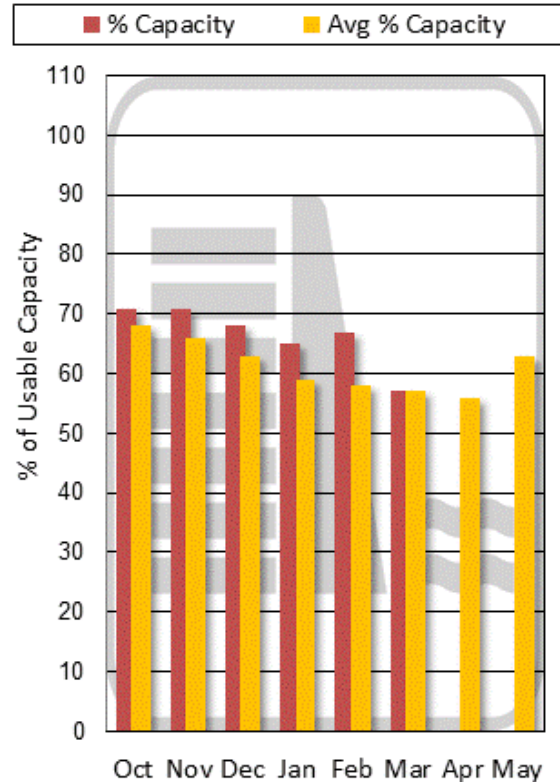
Based on provisional SNOTEL daily data as of 4/1/2017



Mountain and Valley Precipitation



End of Month Reservoir Storage



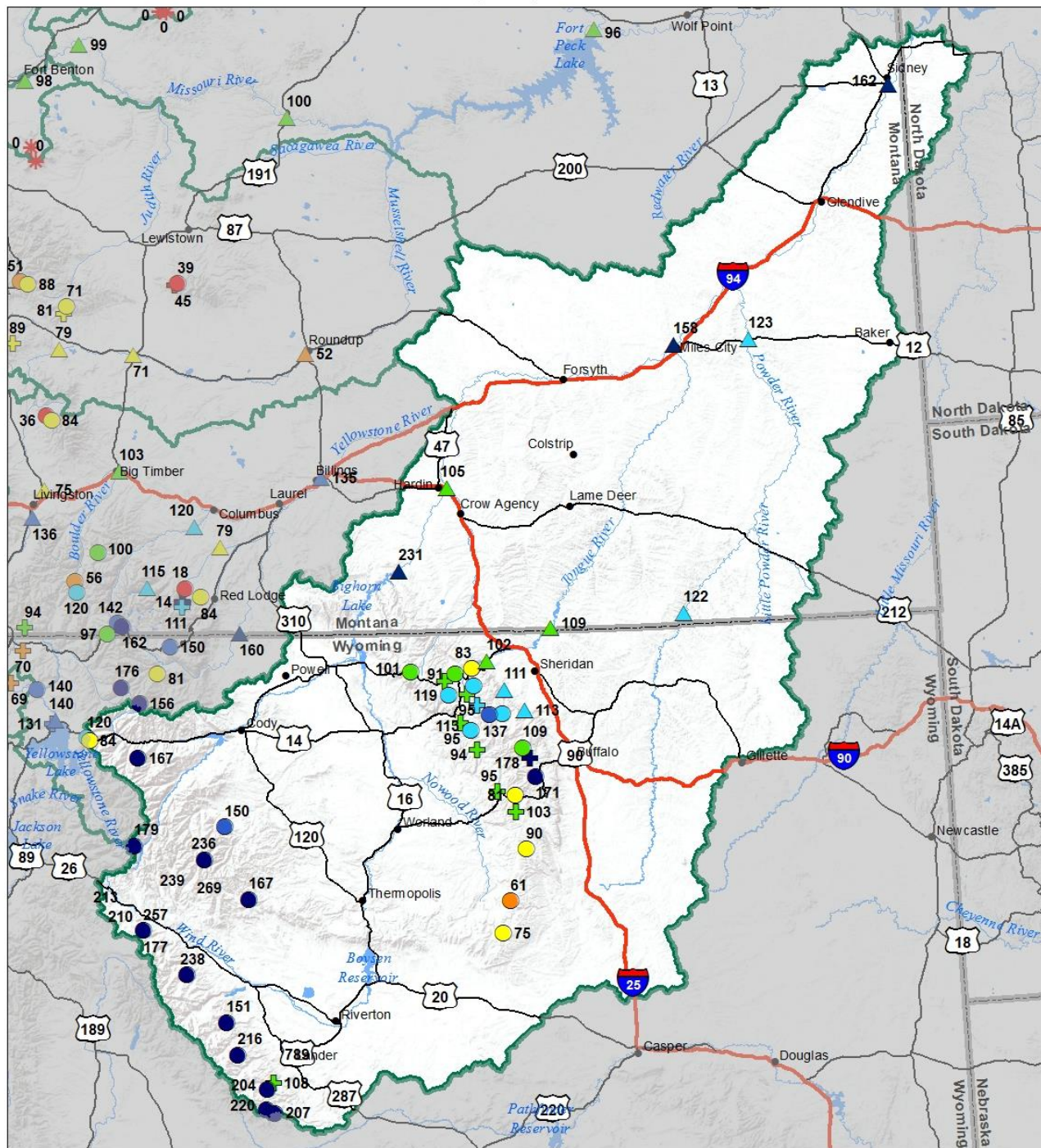
Storage above is averaged for all reservoirs in the basin. For individual reservoirs see table below.

Lower Yellowstone River Basin

Forecast Point	Forecast Period	Chance Actual Volume Will Exceed Forecasted Volume						30yr Avg (KAF)
		90% (KAF)	70% (KAF)	50% (KAF)	% Avg	30% (KAF)	10% (KAF)	
Bighorn R nr St. Xavier ²	APR-JUL	2420	2800	3060	222%	3320	3700	1380
	APR-SEP	2670	3090	3370	231%	3650	4070	1460
Little Bighorn R nr Hardin	APR-JUL	53	83	103	105%	123	153	98
	APR-SEP	60	93	116	105%	139	172	111
Tongue R nr Dayton ²	APR-JUL	61	77	88	102%	99	115	86
	APR-SEP	70	88	100	102%	112	130	98
Big Goose Ck nr Sheridan	APR-JUL	32	44	52	113%	60	72	46
	APR-SEP	40	52	60	111%	68	80	54
Little Goose Ck nr Bighorn	APR-JUL	24	31	36	116%	41	48	31
	APR-SEP	31	39	44	113%	50	58	39
Tongue River Reservoir Inflow ²	APR-JUL	115	175	215	111%	255	315	193
	APR-SEP	129	192	235	109%	280	340	215
Yellowstone R at Miles City ²	APR-JUL	6040	6930	7540	158%	8140	9040	4780
	APR-SEP	6830	7890	8610	158%	9330	10400	5450
Powder R at Moorehead	APR-JUL	78	163	220	124%	275	360	177
	APR-SEP	97	182	240	122%	300	385	196
Powder R nr Locate	APR-JUL	90	182	245	123%	310	400	199
	APR-SEP	107	205	270	123%	335	430	220
Yellowstone R nr Sidney ²	APR-JUL	6040	7070	7760	161%	8450	9480	4830
	APR-SEP	6750	7970	8800	162%	9630	10900	5430

1) 90% and 10% exceedance probabilities are actually 95% and 5%

**Lower Yellowstone River Basin
Streamflow Forecast, Snow Water Equivalent
Percentage of Normal
April 1, 2017**



**Snow Water Equivalent
Percent of Normal**

SNOTEL

- > 150%
- 131 - 150%
- 111 - 130%
- 91 - 110%
- 71 - 90%
- 51 - 70%
- 1 - 50%
- 0%

Snowcourse

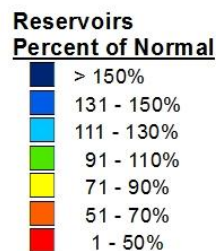
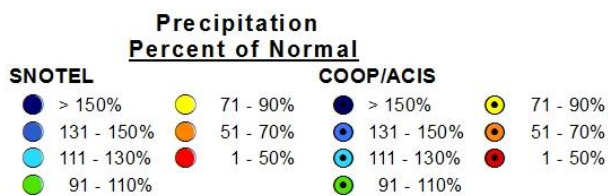
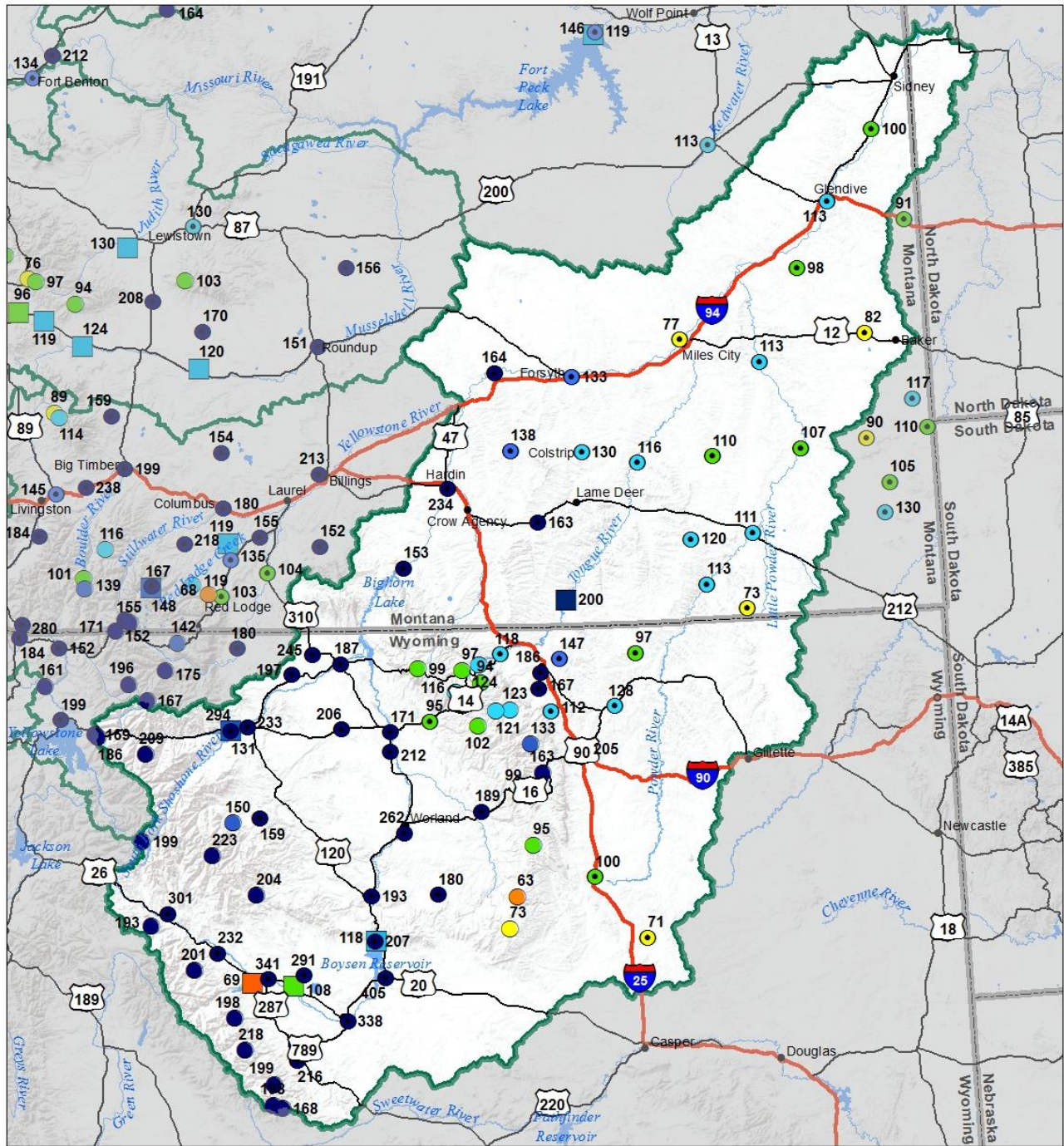
- > 150%
- 131 - 150%
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- 71 - 90%
- 51 - 70%
- 1 - 50%
- 0%

**Streamflow Forecast
Percent of Average Flows**

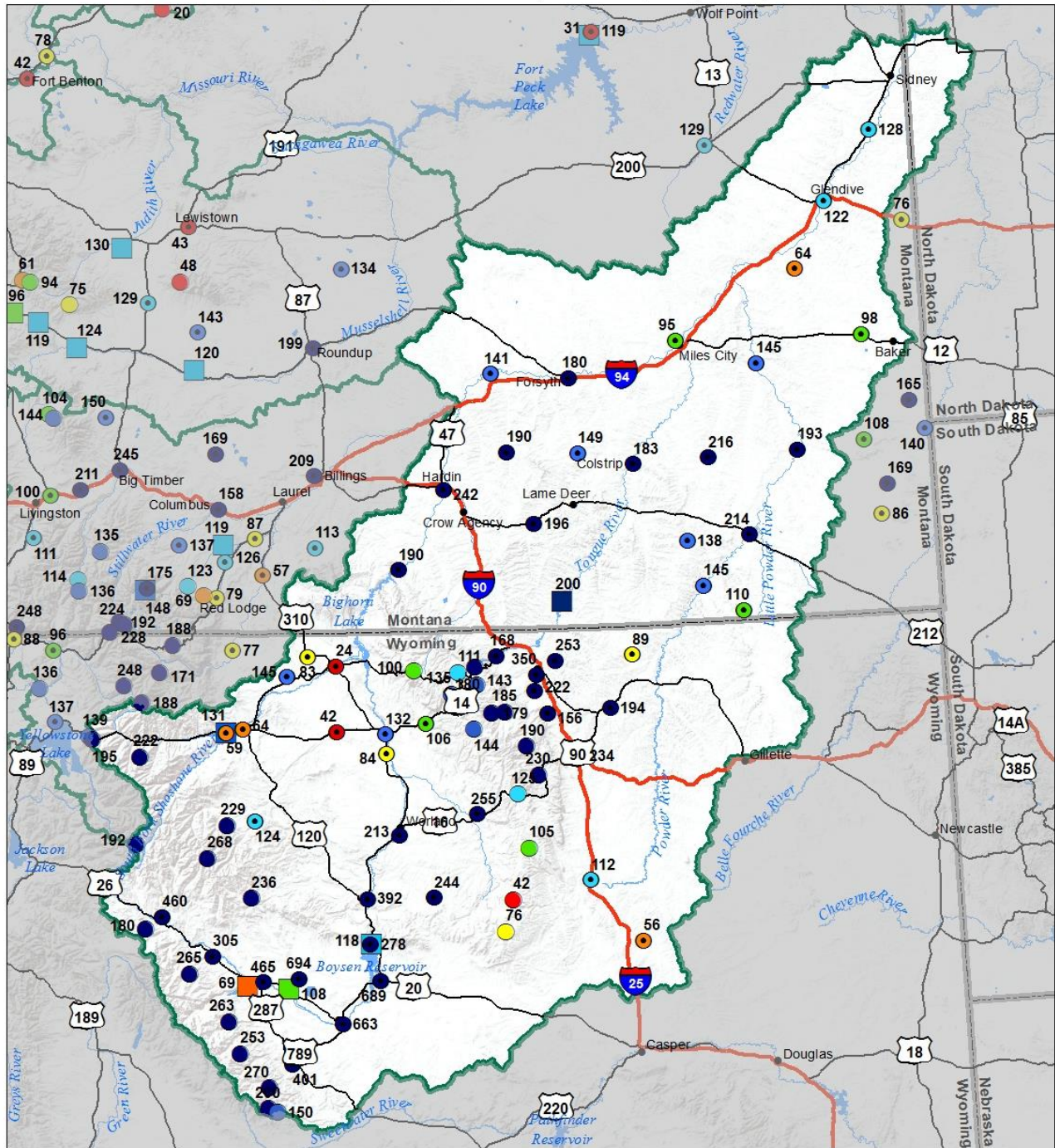
- ▲ > 150%
- ▲ 131 - 150%
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- ▲ 1 - 50%



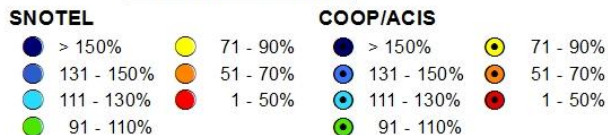
Lower Yellowstone River Basin
Water Year to Date Precipitation and Reservoir Levels
Percentage of Normal
April 1, 2017



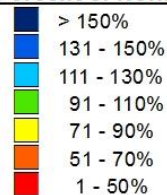
**Lower Yellowstone River Basin
Monthly Precipitation and Reservoir Levels
Percentage of Normal
April 1, 2017 (March 1, 2017 - April 1, 2017)**



**Precipitation
Percent of Normal**



**Reservoirs
Percent of Normal**



Data Summary (SNOTEL and Snowcourse)

Montana Snow Sites	Network	Elevation (ft)	Depth (in)	SWE (in)	Median (in)	% Median	Last Year SWE (in)	Last Year % Median
Albro Lake	SNOTEL	8300	60	20.3	17.7	115	17.9	101
Ambrose	SC	6480			10.4			
Arch Falls	SC	7350	22	6.7	10.8	62	8.2	76
Ashley Divide	SC	4820	17	4.8	4.4	109	2.2	50
Badger Pass	SNOTEL	6900	81	36.1	29.8	121	25.6	86
Banfield Mountain	SNOTEL	5600	53	16.7	17.2	97	14.5	84
Baree Creek	SC	5500	87	34.3	34.9	98	33.1	95
Baree Midway	SC	4600	69	26.7	27.8	96	18	65
Baree Trail	SC	3800	29	10.7	7.2	149	4.2	58
Barker Lakes	SNOTEL	8250	45	12.5	13.9	90	14.7	106
Basin Creek	SNOTEL	7180	18	4.9	7.5	65	10.1	135
Bassoo Peak	SC	5150	28	9.1	7.8	117	6.7	86
Beagle Springs	SNOTEL	8850	40	10.8	8.8	123	11.5	131
Bear Basin	SC	8150	38	13.4	17.7	76	19.4	110
Bear Mountain	SNOTEL	5400	115	47.1	54.3	87	49.2	91
Beartooth Lake	SNOTEL	9360	91	31.5	21	150	16.8	80
Beaver Creek	SNOTEL	7850	55	17.9	16.6	108	17.1	103
Big Snowy	SC	7150	28	8.2	18.2	45	18.4	101
Bisson Creek	SNOTEL	4920	21	8.3	10	83	7.9	79
Black Bear	SNOTEL	8170	113	44.9	36.3	124	31.9	88
Black Mountain	SC	7750	39	12.2	14.1	87	14	99
Black Pine	SNOTEL	7210	33	11.7	9.6	122	8.9	93
Blacktail	SC	5650	35	11.5	12	96	9.8	82
Blacktail Mtn	SNOTEL	5650	33	12.1			10.3	
Bloody Dick	SNOTEL	7600	42	14	10.9	128	14.3	131
Bots Sots	SC	7750	7	1	7	14	1.2	17
Boulder Mountain	SNOTEL	7950	54	17.3	19.4	89	20.8	107
Box Canyon	SNOTEL	6670	13	4.8	8.6	56	7.7	90
Boxelder Creek	SC	5100	0	0	7.1	0	0.1	1
Brackett Creek	SNOTEL	7320	50	19.3	19	102	20.7	109
Bristow Creek	SC	3900	26	9.9	7	141	4.2	60
Brush Creek Timber	SC	5000	17	6.1	6.1	100	5.6	92
Bull Mountain	SC	6600	8	1.8	5.6	32	5.4	96
Burnt Mtn	SNOTEL	5880	2	0.8	4.4	18	2.8	64
Cabin Creek	SC	5200	12	3.6	5	72	0.1	2
Calvert Creek	SNOTEL	6430	16	6	7.1	85	7.2	101
Camp Senia	SC	7890	32	9.6	5.4	178	6.1	113
Canyon	SNOTEL	7870	50	17.2	12.3	140	10.7	87
Carrot Basin	SNOTEL	9000	94	29.5	25.2	117	24.8	98
Chessman Reservoir	SC	6200	3	1.2	2.6	46	4.1	158
Chicago Ridge	SC	5800	93	35.2			37.4	

Chicken Creek	SC	4060	39	13.8	13.8	100	12.5	91
Clover Meadow	SNOTEL	8600	40	10.8	15.6	69	15	96
Cole Creek	SNOTEL	7850	37	11.3	13.5	84	10.8	80
Combination	SNOTEL	5600	2	0.3	4.2	7	1.5	36
Copper Bottom	SNOTEL	5200	9	3.1			0	
Copper Camp	SNOTEL	6950	82	39			27.6	
Copper Mountain	SC	7700	32	9.7	9.9	98	13.2	133
Cottonwood Creek	SC	6400	16	4.6	7.3	63	8.3	114
Coyote Hill	SC	4200	22	8.3	7	119	4	57
Crevice Mountain	SC	8400	33	8.8	9.4	94	10	106
Crystal Lake	SNOTEL	6050	13	4.7	11.9	39	15.6	131
Dad Creek Lake	SC	8800			13.4			
Daisy Peak	SNOTEL	7600	26	7	9.8	71	9.4	96
Daly Creek	SNOTEL	5780	28	10.1	9.6	105	9.1	95
Darkhorse Lake	SNOTEL	8600	95	30.5	26.2	116	31.3	119
Deadman Creek	SNOTEL	6450	13	4.9	9.7	51	11.2	115
Desert Mountain	SC	5600			12.6		12.2	97
Discovery Basin	SC	7050	29	8.8	9.2	96	8.7	95
Divide	SNOTEL	7800	26	7.7	9.8	79	10.2	104
Dix Hill	SC	6400	16	5.4	9.1	59	7.6	84
Dupuyer Creek	SNOTEL	5750	30	9.9	8.6	115	1.3	15
Eagle Creek	SC	7000			11.6		12.7	109
East Boulder Mine	SNOTEL	6335	8	2.5			3.6	
El Dorado Mine	SC	7800	33	11.1	17.4	64	11.5	66
Elk Horn Springs	SC	7800	29	10	8	125	9	113
Elk Peak	SNOTEL	7600	45	17.2			21.8	
Elk Peak	SC	8000	40	11.4	12.8	89	13.7	107
Emery Creek	SNOTEL	4350	36	12.6	13.7	92	14.6	107
Fatty Creek	SC	5500	57	21.7	21.2	102	22.4	106
Fish Creek	SC	8000			9			
Fisher Creek	SNOTEL	9100	123	42.7	30.1	142	28.5	95
Flattop Mtn.	SNOTEL	6300	121	49	42	117	41.6	99
Fleecer Ridge	SC	7500	31	10.4	9.5	109	9.6	101
Foolhen	SC	8280	43	14.2	14.4	99	14.6	101
Forest Lake	SC	6400			10		11.1	111
Four Mile	SC	6900	20	7.1	7	101	8.4	120
Freight Creek	SC	6000	39	12.8	11.9	108	6.6	55
Frohner Meadow	SNOTEL	6480	17	6.4	7.4	86	7.4	100
Garver Creek	SNOTEL	4250	35	11.3	9.1	124	10.2	112
Gibbons Pass	SC	7100			20		21.7	109
Goat Mountain	SC	7000			8			
Government Saddle	SC	5270	83	31.8			30.8	
Grave Creek	SNOTEL	4300	40	14.5	13.8	105	11.8	86
Griffin Creek Divide	SC	5150	33	10.7	8.4	127	7.7	92
Hand Creek	SNOTEL	5035	26	9.6	11.1	86	9.1	82
Hawkins Lake	SNOTEL	6450	90	29.5	23.4	126	29.7	127
<u>Haymaker</u>	<u>SC</u>	<u>8050</u>			<u>10.6</u>			

Hebgen Dam	SC	6550	18	6.4	9.8	65	10.4	106
Hell Roaring Divide	SC	5770	77	25.7	25.8	100	26.6	103
Herrig Junction	SC	4850	62	22	24.1	91	21	87
Highwood Divide	SC	5650	0	0	6.7	0	2.7	40
Highwood Station	SC	4600	0	0	3.8	0	0.7	18
Holbrook	SC	4530	14	5.3	6.8	78	1.2	18
Hoodoo Basin	SNOTEL	6050	106	42.4	38.9	109	36.7	94
Humboldt Gulch	SNOTEL	4250	28	9	9.1	99	8.4	92
Jakes Canyon	SC	9040	52	17.8	11.2	159	15	134
Johnson Park	SC	6450	11	3.4	4.2	81	1.3	31
Kishenehn	SC	3890	29	9.8	6.6	148	4.2	64
Kraft Creek	SNOTEL	4750	23	8.7			8.3	
Lake Camp	SC	7780	33	11.5	8.8	131	5.5	63
Lakeview Canyon	SC	6930	25	8	9.5	84	10.1	106
Lakeview Ridge	SNOTEL	7400	15	5.3	10.4	51	10	96
Lemhi Ridge	SNOTEL	8100	34	10.4	9.7	107	12.8	132
Lick Creek	SNOTEL	6860	14	5.6	11.2	50	10.4	93
Little Park	SC	7400	33	10.4	13.7	76	14.9	109
Logan Creek	SC	4300	20	6.5	5.8	112	4.8	83
Lolo Pass	SNOTEL	5240	69	28.6	27.1	106	24	89
Lone Mountain	SNOTEL	8880	46	16.4	16.7	98	18.1	108
Lookout	SNOTEL	5140	58	24.1	26.2	92	22.1	84
Lower Twin	SNOTEL	7900	57	17.8	16.6	107	18.5	111
Lubrecht Flume	SNOTEL	4680	0	0	1.6	0	0	0
Lubrecht Forest No 3	SC	5450	9	2.7	4.6	59	1	22
Lubrecht Forest No 4	SC	4650	0	0	0.4	0	0	0
Lubrecht Forest No 6	SC	4040	3	0.8	0.6	133	0	0
Lubrecht Hydroplot	SC	4200	7	2.1	0.6	350	0	0
Lupine Creek	SC	7380	14	5.2	7.4	70	8.1	109
Madison Plateau	SNOTEL	7750	66	26.3	21.3	123	21.5	101
Many Glacier	SNOTEL	4900	39	14.5	12.4	117	6.7	54
Marias Pass	SC	5250	45	15.9	14.4	110	9.6	67
Mineral Creek	SC	4000	29	12	15.4	78	9	58
Monument Peak	SNOTEL	8850	69	22.6	18.8	120	18.5	98
Moss Peak	SNOTEL	6780	106	39.9	35.1	114	38.9	111
Moulton Reservoir	SC	6850			6.3			
Mount Allen No 7	SC	5700						
Mount Lockhart	SNOTEL	6400	57	21.5	18.4	117	14.2	77
Mudd Lake	SC	7650	52	20.8	17.2	121		
Mule Creek	SNOTEL	8300	54	16.7	13.8	121	15.5	112
N Fk Elk Creek	SNOTEL	6250	29	9.3	10.6	88	10.2	96
Nevada Ridge	SNOTEL	7020	47	15.7	13.9	113	13	94
New World	SC	6900	20	7.2	12.8	56	11.2	88
Nez Perce Camp	SNOTEL	5650	38	13.2	13	102	12.3	95
Noisy Basin	SNOTEL	6040	101	40.4	39.3	103	45.5	116
Norris Basin	SC	7550	18	6.1	8.8	69	6.8	77
North Fork Jocko	SNOTEL	6330	86	36	40.3	89	39.3	98

Northeast Entrance	SNOTEL	7350	25	9.3	9.6	97	7.6	79
Onion Park	SNOTEL	7410	29	8.2	13	63	13.7	105
Ophir Park	SC	7150	37	13	14.8	88	12.1	82
Parker Peak	SNOTEL	9400	91	33	18.8	176	20	106
Peterson Meadows	SNOTEL	7200	34	10.5	9.6	109	11.5	120
Pickfoot Creek	SNOTEL	6650	29	10.3	9.5	108	10.8	114
Pike Creek	SNOTEL	5930	21	8.4			7.6	
Pipestone Pass	SC	7200	8	2.2	4.6	48	8.3	180
Placer Basin	SNOTEL	8830	61	16.6	16.6	100	14.9	90
Poorman Creek	SNOTEL	5100	87	35	35.1	100	33.8	96
Porcupine	SNOTEL	6500	7	2.1	5.9	36	4.9	83
Potomageton Park	SC	7150	30	11.3	12	94	14.2	118
Revais	SC	4800			0.2		0	0
Rock Creek Mdws	SC	3400	39	15.6			11.2	
Rocker Peak	SNOTEL	8000	39	11.5	12.4	93	12.8	103
Rocky Boy	SNOTEL	4700	0	0	3.8	0	0	0
Roland Summit	SC	5120	84	33.8	31	109	33.3	107
S Fork Shields	SNOTEL	8100	39	12.9	15.3	84	14.1	92
Sacajawea	SNOTEL	6550	25	9.8	14.8	66	14.1	95
Saddle Mtn.	SNOTEL	7940	69	22.8	22.9	100	24.8	108
Short Creek	SNOTEL	7000	7	1.7	5.7	30	5.9	104
Shower Falls	SNOTEL	8100	56	16.1	20.7	78	20.1	97
Skalkaho Summit	SNOTEL	7250	62	23.7	21.4	111	19.6	92
Sleeping Woman	SNOTEL	6150	47	18.2	13.9	131	13.6	98
Slide Rock Mountain	SC	7100	36	13.7	12.9	106	14.8	115
Spotted Bear Mountain	SC	7000	35	12.6	12.2	103	9.2	75
Spur Park	SNOTEL	8100	55	17.1	19.5	88	21.8	112
Stahl Peak	SNOTEL	6030	113	39.6	33.3	119	39.3	118
Stemple Pass	SC	6600	34	9.6	8.3	116	8.4	101
Storm Lake	SC	7780	37	12.1	12.6	96	14.5	115
Stringer Creek	SNOTEL	6550	16	6	10.1	59	11.4	113
Stryker Basin	SC	6180	94	30.8	28.2	109	33.6	119
Stuart Mountain	SNOTEL	7400	97	34.9	30.6	114	30	98
Taylor Road	SC	4080	0	0	1	0	0.1	10
Ten Mile Lower	SC	6600	19	6.2	5.7	109	7.2	126
Ten Mile Middle	SC	6800	28	8.6	9.8	88	9.9	101
Tepee Creek	SNOTEL	8000	33	11.7	13.3	88	15.2	114
Timberline Creek	SC	8850	40	13.4	12.1	111	9.7	80
Tizer Basin	SNOTEL	6880	15	5.2	9.4	55	8.4	89
Trinkus Lake	SC	6100	88	37.7	37.2	101	43.3	116
Truman Creek	SC	4060	0	0	2.5	0	0	0
Twelvemile Creek	SNOTEL	5600	39	15.8	14.5	109	12.2	84
Twenty-One Mile	SC	7150	42	15.7	14.7	107	12.7	86
Twin Lakes	SNOTEL	6400	83	37	35.4	105	37.2	105
Upper Holland Lake	SC	6200	71	29.5	29.6	100	29.4	99
Waldron	SNOTEL	5600	39	12.8	10.7	120	5.8	54
Warm Springs	SNOTEL	7800	64	19.7	19	104	20.7	109

Weasel Divide	SC	5450	90	33.9	29	117	26.9	93
West Yellowstone	SNOTEL	6700	19	8	10.2	78	10.5	103
Whiskey Creek	SNOTEL	6800	39	13.4	15	89	13.4	89
White Elephant	SNOTEL	7710	72	26.4	25.7	103	25.8	100
White Mill	SNOTEL	8700	93	34.9	21.6	162	22.7	105
Wolverine	SNOTEL	7650	33	7.4	9.1	81	11.7	129
Wood Creek	SNOTEL	5960	25	9.1	8.5	107	6.5	76
Wrong Creek	SC	5700	40	13.6	10.2	133	6.8	67
Wrong Ridge	SC	6800	47	17	13.5	126	8	59
Younts Peak	SNOTEL	8350	59	25.2	14.1	179	14.1	100

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Montana Water Supply Outlook Report

Natural Resources Conservation Service

